BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
WESTERN ZONE BENCH, PUNE

ORIGINAL APPLICATION NO. 237/2024 (WZ)
EARLIEAR ORIGINAL APPLICATION NO. 1364/2024 (PB)

IN THE MATTER OF: -

NEWS ITEM TITLED "3 DEAD 9 HOSPITALIZED AFTER GAS LEAK BLAST AT FERTILISER PLANT IN MAHARASHTRA" APPEARING IN THE TIMES OF INDIA DATED 22.11.2024

INDEX

NOTARY GOVERNMENT OF INDIA
MANISHA SAMEER CHITNIS
PUNE (MAHARASHTRA)
REGD. NO. 20258
EXP. DATE 07/03/2025

(Pratik D. Bharne)
Regional Director

क्षेत्रीय निदेशक / Regional Director
केंद्रीय प्रदूषण नियंत्रण बोर्ड
Central Pollution Control Board
क्षेत्रीय निदेशालय, पुणे/Regional Directorate, Pune
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार
M/o Envt. Forest & Climate Change, Govt. of India
सर्वे नं. ११०, हीराबाई धनकुडे हॉल, बाणेर रोड, बाणेर, पुणे - 411045
Sr. No. 110, Hirabai Dhankude Hall, Baner Road, Baner, Pune-411045

Place: Pune
Date: 06/02/2025

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
WESTERN ZONE BENCH, PUNE

ORIGINAL APPLICATION NO. 237/2024 (WZ)
EARLIEAR ORIGINAL APPLICATION NO. 1364/2024 (PB)

IN THE MATTER OF: -

NEWS ITEM TITLED "3 DEAD 9 HOSPITALIZED AFTER GAS LEAK BLAST AT FERTILISER PLANT IN MAHARASHTRA" APPEARING IN THE TIMES OF INDIA DATED 22.11.2024

REPLY ON BEHALF OF RESPONDENT NO. 2,
CENTRAL POLLUTION CONTROL BOARD (CPCB)

1. That, the Hon'ble National Green Tribunal (hereinafter referred to as "Hon'ble NGT") Principal Bench, New Delhi vide order dated 12/12/2024 has sought the reply of Central Pollution Control Board (hereinafter referred to as "CPCB") in the instant matter and transferred the matter to Western Zonal Bench for appropriate further action. Thereby, the reply is made in this instant Original Application (hereinafter referred to as "OA") in succeeding paragraphs.

2. That, CPCB is constituted under Section 3 of the Water (Prevention and Control of Pollution) Act, 1974 (hereinafter referred to as "Water Act, 1974"). It performs the functions under the Water Act, 1974, The Air (Prevention and Control of Pollution) Act, 1981 (hereinafter referred to as "Air Act, 1981"), and The Environment (Protection) Act, 1986 (hereinafter referred to as "E (P) Act, 1986").

SUBMISSIONS BY CPCB

3. That, the matter is related to a gas leak and blast occurred at M/s Manmar Chemical Company, a Fertilizer plant located at Shalgaon MIDC, Kadegaon, Sangli, Maharashtra (hereinafter referred to as "industry"), resulting in death of three people and hospitalization of nine people. As per the News Article, dated

22/11/2024, cause of the accident is due to explosion of reactor which has led to release of ammonia.

4. That, CPCB pursued the matter with Maharashtra Pollution Control Board (hereinafter referred to as "MPCB") vide letters dated 30/12/2024 and email communication dated 31/12/2024 with a request to provide the Action Taken Report (ATR) in the matter. Copy of the aforesaid letters and email are annexed as **Annexure-R2-I**.

5. That, MPCB vide e-mail dated 22/01/2025 provided details of the industry, copies of action taken against the industry and other relevant information to CPCB in the above subject matter. Copy of the information/ATR provided by MPCB is annexed as **Annexure-R2-II.** The observations/action taken by MPCB are summarised as below:

   i. That, based on MPCB records, the industry had submitted an online undertaking to MPCB on 26/12/2021 towards the establishment & operation of the industry falling under "White" category i.e. Bio fertilizer and bio pesticides without using inorganic chemicals, for the manufacturing of PGR, Micro Nutrient (3,000 MT/month) and Protein Hydrolyze (3,000 MT/month).

   ii. That, MPCB has carried-out inspection of the industry on 21/11/2024 w.r.t. redressal of complaint addressed by Sh. Vijay Mulik, Dy. Sarpanch, Shalgaon, regarding the blast occurred at the said industry. As per the said inspection, the industry was engaged in manufacturing of water soluble fertilizers. During the manufacturing process, Tri-Chloro Ethylene released due to blast and as a result eleven people were injured, out of which three people were died at the Hospital. Further, it is observed by MPCB that the industry was operating without obtaining Consent to Establish (CTE) and Consent to Operate (CTO) and also operating without the provision of air pollution control devices & safety measures.

iii. That, MPCB has issued closure direction to the industry on 22/11/2024 u/s 33A of the Water (Prevention & Control of Pollution) Act, 1974, 31A of the Air (Prevention & Control of Pollution) Act, 1981, the Hazardous & Other Waste (Management and Transboundary Movement) Rules, 2016 (hereinafter referred to as HOWM Rules, 2016) and directed the industry to stop the manufacturing activity by taking all safety measures to avoid damage to the surrounding environment. Further, MPCB also issued direction on 22/11/2024 to dispose hazardous waste generated due to blast to the industry u/s 33A of the Water (Prevention & Control of Pollution) Act, 1974, 31A of the Air (Prevention & Control of Pollution) Act, 1981, the HOWM Rules, 2016 and directed the industry to dispose all hazardous waste & waste generated due to the accident in scientific manner with all safety measures at a designated common hazardous waste treatment storage disposal facility (CHWTSDF).

iv. That, MPCB also filed an FIR against the industry representatives viz. Sh. Nandkumar Jagannath Nalawade and Sh. Mandar Nandkumar Nalawade, on 22/11/2024, at the Kadegaon Police Station.

v. That, the District Collector, Sangli has constituted a Joint Committee, comprising of Regional Officer of MIDC (as Chairman), Assistant Director of Directorate of Industrial Safety & Health (DISH) (as Member Secretary), MPCB, Tahsildar, Police, Labour Officer, and Sarpanch of the nearby villages with one representative from each of village, with directions to visit the other three chemical industries operating in Bombalewadi-Shalgaon MIDC.

vi. That, in compliance to the said order, the said joint committee has visited the three chemical industries viz. M/s Green Gene Enviro Protection and Infrastructure Pvt. Ltd., Plot No. B-18, MIDC Shalgaon; M/s Shree Vitthal Chemicals, Plot No. A-7 & A-7/1, MIDC Shalgaon; and M/s. Sahyadri Industries, Plot No. C-85, MIDC Shalgaon on 29/11/2024 and 06/12/2024. Further, based on the findings of the joint committee, MPCB has issued proposed directions to M/s Green Gene Enviro Protection

and Infrastructure Pvt. Ltd., and M/s Shree Vitthal Chemicals on 06/12/2024 u/s 33A of the Water Act, 1974. Also, directed the said industries to respond to the said directions issued.

vii. That, the District Collector, Sangli has directed MPCB to dispose the waste generated due to accident. As per the letter dated 02.12.2024 from Asst. Director, DISH, Sangli to SRO, MPCB, Sangli, DISH collected the samples of chemicals present in the reactor and analysed from a Private Laboratory and it is found that the chemicals are Di-Chloro Acetyl Chloride (DCAC) and Di-Chloro Acetic Acid (DCAA). About 2 MT Material is present in the Reactor and opined that it is Hazardous Waste.

viii. That, MPCB initially requested M/s Maharashtra Enviro Power Ltd. (MEPL), MIDC, Ranjangaon, Dist Pune (a CHWTSDF) for taking samples to decide disposal path. Accordingly, the said CHWTSDF carried out site visit and sampling from the reactor on 03.12.2024, submitted analysis results to MPCB and it was informed that the said samples of chemical are strong acidic in nature and highly reactive with moisture & air. It was also informed that the said chemical seems to be a Dichloro Acetyl Chloride and informed that handling of hazardous chemical may possesses several risks and health hazard.

ix. That, MPCB vide letter dated 09/12/2024 directed the aforesaid CWHTSDF to collect and dispose the hazardous waste/chemical lying in the premises. In response to MPCB letter, the said CHWTSDF submitted a reply on 13/12/2024 stating that they are unable to accept the waste/chemical for transportation as well as disposal, as the waste/chemical being highly toxic nature, reactive nature with moisture & air and also the risk associated during transportation.

x. That, subsequently, MPCB contacted another CHWTSDF i.e. M/s Mumbai Waste Management Ltd., MIDC, Taloja, Dist Raigad with request to visit the site and analyse the hazardous waste/chemical arose due to for its disposal in accordance with the HOWM Rules, 2016. Accordingly, a team from aforesaid CHWTSDF has visited the alleged

site on 17/12/2024 and collected the samples of waste/chemical. Vide email dated 18/12/2024 the aforesaid CHWTSDF has submitted an offer to MPCB along with timeline for collection, transportation, treatment & disposal of the waste. Final decision in this regard is under consideration by MPCB.

xi. That, as per the information shared by MPCB, dated 22/01/2025, no information is mentioned about the compensation paid by the respondent industry to the deceased/injured persons.

6. That, it is humbly submitted that the industry on 26/12/2021 had submitted an undertaking to MPCB towards establishment & operation of their industry stating that the industry falls under white category as per CPCB directions dated 07/03/2016 regarding harmonisation of classification of industrial sectors under Red/ Orange/ Green & White category. In the aforementioned undertaking, the industry had submitted that the industry is falling under white category "bio fertilizer and bio-pesticides industry- without using inorganic chemicals". Further, in the undertaking, the industry had submitted that it will not generate any effluent, process emissions and any hazardous waste.

7. That, it is humbly submitted that the industries manufacturing bio fertilizer and bio-pesticides industries without using inorganic chemicals were categorized under White Category of industries in 2016. It is submitted that bio-fertilizers and bio-pesticides are manufactured using biological entities like microorganisms, plants and biological compound etc.

   As per information/ATR submitted by MPCB, the two chemicals viz. Di-chloro Acetyl Chloride and Di-choloro Acetic Acid having quantity of 2 Tonnes were found in the reactor and the respondent industry also informed release of Trichloroethylene gas due to blast. It is submitted that Trichloroethylene is listed as a Hazardous Chemical under Part –II of Schedule –I of The Manufacture, Storage and Import of Hazardous Chemical (MSIHC) Rules, 1989.

It is further humbly submitted that Dichloro Acetyl Chloride is manufactured by oxidizing Trichloroethylene. This process was patented in the United States Patent Office on 28/04/1970. The copy of the patent is enclosed as **Annexure-R2-III.**

8. That, it is humbly submitted that based on the above facts, prima facie indicates that the industry had provided incorrect undertaking with misleading facts to MPCB that it is a bio-fertilizer & bio-pesticides industry and that it does not generate any process emission & hazardous wastes. Also, the industry had declared that it will comply with the provisions of the Water Act, 1974, the Air Act, 1981, and the E(P)A, 1986.

   It is further humbly submitted that based on the aforesaid information the industry was manufacturing Di-chloro Acetyl Chloride using the Hazardous Chemical-Trichloroethylene without obtaining Consent to Establish and Consent to Operate from MPCB.

9. That, this Answering Respondent no. 2 craves leave of this Hon'ble NGT for filing additional reply, if required, in future.

10. That, an Affidavit in support of this reply is being filed herewith in light of the above submissions, this Answering Respondent No. 2 shall abide by any order(s) or direction(s) passed by this Hon'ble NGT in the present OA.

Pratik D. Bharne
(Scientist 'E' & Regional Director)
Central Pollution Control Board

क्षेत्रीय निदेशक / Regional Director
केंद्रीय प्रदूषण नियंत्रण बोर्ड
Central Pollution Control Board
क्षेत्रीय निदेशालय, पुणे/Regional Directorate, Pune
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार
M/o Envt. Forest & Climate Change, Govt. of India
सर्वे नं. ११०, हीराबाई धनकुडे हॉल, बाणेर रोड, बाणेर, पुणे – 411045
Sr. No. 110, Hirabai Dhankude Hall, Baner Road, Baner, Pune-411045

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
WESTERN ZONE BENCH, PUNE

ORIGINAL APPLICATION NO. 237/2024 (WZ)
EARLIEAR ORIGINAL APPLICATION NO. 1364/2024 (PB)

IN THE MATTER OF: -

NEWS ITEM TITLED "3 DEAD 9 HOSPITALIZED AFTER GAS LEAK BLAST AT FERTILISER PLANT IN MAHARASHTRA" APPEARING IN THE TIMES OF INDIA DATED 22.11.2024

AFFIDAVIT

I, Pratik D. Bharne, working as Scientist 'E' & Regional Director in Central Pollution Control Board, Regional Directorate, Survey No. 110, Hirabai Dhankude Multipurpose Hall, Baner Road, Baner, Pune, do hereby solemnly affirm, declare on oath and state as under:

1. That, the deponent is authorized representative to represent the Respondent CPCB in the present case, and as such, I am well conversant with the facts and circumstances of the present case on the basis of the information derived from the official records, and hence, I am competent and authorized to verify, sign and swear this affidavit on behalf of the Respondent CPCB.

2. That, the accompanying reply may be read part and parcel of the present affidavit as I am competent to swear this affidavit.

3. That, the contents there of are true and correct on the basis of the record maintained during ordinary course of business of CPCB and available records and documents and the contents of the same are read over and explained to me and are not repeated herein for the sake of brevity.

DEPONENT

क्षेत्रीय निदेशक / Regional Director
केंद्रीय प्रदूषण नियंत्रण बोर्ड
Central Pollution Control Board
क्षेत्रीय निदेशालय, पुणे/Regional Directorate, Pune
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार
M/o Envt. Forest & Climate Change, Govt. of India
सर्वे नं. ११०, हीराबाई धनकुडे हॉल, बाणेर रोड, बाणेर, पुणे - 411045
Sr. No. 110, Hirabai Dhankude Hall, Baner Road, Baner, Pune-411045

VERIFICATION

Verified at Pune on this day..6th of February, 2025 that the contents of the above reply are correct and true on the basis of the record of the cases as mentioned in the day to day affairs of the CPCB. Nothing has been concealed therefrom or mis-stated.

DEPONENT – Respondent No. 2

क्षेत्रीय निदेशक / Regional Director
केंद्रीय प्रदूषण नियंत्रण बोर्ड
Central Pollution Control Board
क्षेत्रीय निदेशालय, पुणे/Regional Directorate, Pune
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार
M/o Envt. Forest & Climate Change, Govt. of India
सर्वे नं. ११०, हीराबाई धनकुडे हॉल, बाणेर रोड, बाणेर, पुणे - 411045
Sr. No. 110, Hirabai Dhankude Hall, Baner Road, Baner, Pune-411045

COUNSEL for Respondent No. 2

NOTARY * GOVERNMENT OF INDIA * MANISHA SAMEER CHITNIS PUNE MAHARASHTRA REGD. NO. 20253 EXP. DATE 07/03/2025

NOTARIAL NOTARIAL NOTARIAL NOTARIAL NOTARIAL

Noted & Registered
At.Sr.No.83/2025

BEFORE ME

MANISHA SAMEER CHITNIS
NOTARY
GOVERNMENT OF INDIA

06 FEB 2025

केंद्रीय प्रदूषण नियंत्रण बोर्ड
Central Pollution Control Board
(पर्यावरण, वन एवं जलवायु परीवर्तन मंत्रालय, भारत सरकार)
(MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE, GOVT. OF INDIA)

फ़ाइल संख्या: सीएम-13015/27/2024-लॉ आरडी-पुणे-आरडी (पुणे)/ 347 दिनांक: 30/12/2024

सेवा में,

सदस्य सचिव,
महाराष्ट्र प्रदूषण नियंत्रण बोर्ड,
कल्पतरु पॉइंट, तीसरी और चौथी मंजिल,
पीवीआर थिएटर के सामने ,
सायन (ई), मुंबई-400 022

विषयः माननीय एनजीटी के मामले में ओए संख्या 1364/2024 (पीबी) "महाराष्ट्र में उर्वरक संयंत्र में गैस रिसाव विस्फोट के बाद 3 मृत, 9 अस्पताल में भर्ती" शीर्षक से समाचार आइटम दिनांक 22.11.2024 के टाइम्स ऑफ इंडिया में प्रकाशित के संबंध में;

महोदय,

यह माननीय राष्ट्रीय हरित न्यायाधिकरण (एनजीटी) के मामले ओए संख्या 1364/2024 (पीबी) "महाराष्ट्र में उर्वरक संयंत्र में गैस रिसाव विस्फोट के बाद 3 मृत, 9 अस्पताल में भर्ती" शीर्षक से समाचार आइटम दिनांक 22.11.2024 के टाइम्स ऑफ इंडिया में प्रकाशित का संदर्भ है। यह महाराष्ट्र के शालगांव एमआईडीसी, कडेगांव, सांगली में म्यांमार केमिकल कंपनी में गैस रिसाव और विस्फोट के कारण तीन व्यक्तियों की मौत और नौ अन्य के अस्पताल में भर्ती होने की घटना औद्योगिक सुरक्षा, पर्यावरण संरक्षण और कानूनी ढांचे के संबंध में महत्वपूर्ण चिंताएं पैदा करती है।

माननीय एनजीटी, प्रधान पीठ, नई दिल्ली ने उक्त स्वत: संज्ञान मामले में दिनांक 12.12.2024 के आदेश के तहत महाराष्ट्र प्रदूषण नियंत्रण बोर्ड (एमपीसीबी), केंद्रीय प्रदूषण नियंत्रण बोर्ड (सीपीसीबी), पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय (एमओईएफ एंड सीसी) और जिला मजिस्ट्रेट-सांगली को प्रतिवादी के रूप में अपनी प्रतिक्रिया देने के लिए बनाया है। मूल आवेदन (ओए) को उचित अवं आगे की कार्रवाई के लिए माननीय पश्चिमी जोनल बेंच, पुणे को स्थानांतरित कर दिया गया है। माननीय एनजीटी (पीबी) के आदेश दिनांक 12/12/2024 की प्रति संदर्भ के लिए संलग्न है।

इस संबंध में, अनुरोध है कि उक्त आदेश के आलोक में समाचार-वस्तु की जांच करने की व्यवस्था करें और यदि कोई हो तो की गई कार्रवाई रिपोर्ट (एटीआर) प्रदान करें। मामला 07/02/2024 को सूचीबद्ध है।

आपका विश्वासी,

अनुलग्नक: जैसा कि ऊपर दिया गया है

(प्रतीक दि. भरणे)
क्षेत्रीय निदेशक

प्रति: -

क्षेत्रीय अधिकारी,
महाराष्ट्र प्रदूषण नियंत्रण बोर्ड,
उद्योग भवन भवन, कलेक्टरेट कार्यालय के पास,
कोल्हापुर - 416002

(प्रतीक दि. भरणे)
क्षेत्रीय निदेशक

केंद्रीय प्रदूषण नियंत्रण बोर्ड
Central Pollution Control Board
(पर्यावरण, वन एवं जलवायु परीवर्तन मंत्रालय, भारत सरकार)
(MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE, GOVT. OF INDIA)

To

The Member Secretary,
Maharashtra Pollution Control Board,
Kalpataru Point, 3rd and 4th floor, Opp. PVR Theatre,
Sion (E), Mumbai-400 022

Sub: **Hon'ble NGT Matter in OA No. 1364/2024(PB) in re; News Item titled "3 dead 9 hospitalized after gas leak blast at fertilizer plant in Maharashtra" appearing in the Times of India dated 22.11.2024"– reg.**

Sir,

This has reference to the Hon'ble National Green Tribunal (NGT) Matter in O.A. No. 1364 of 2024 (PB) in News Item titled "3 dead 9 hospitalized after gas leak blast at fertilizer plant in Maharashtra" appearing in the Times of India dated 22.11.2024". The incident involving the death of three individuals and the hospitalization of nine others due to a gas leak and explosion at Myanmar Chemical Company in Shalgaon MIDC, Kadegaon, Sangli, Maharashtra, raises significant concerns regarding industrial safety, environmental protection, and legal frameworks.

Hon'ble NGT, Principal Bench, New Delhi vide order dated 12.12.2024 in the said Suo Motu matter, impleaded the Maharashtra Pollution Control Board (MPCB), Central Pollution Control Board (CPCB), Ministry of Environment, Forest and Climate Change of India (MoEF&CC), and District Magistrate-Sangli, as respondents to file their responses. The Original Application (OA) is transferred to the Hon'ble Western Zonal Bench, Pune for appropriate further action. Copy of Hon'ble NGT(PB) order dated 12/12/2024 is enclosed for ready references.

In this regard, it is requested to kindly arrange to examine the news-item in light of the said order and provide Action Taken Report (ATR), if any. The matter is listed on 07/02/2024.

Yours Faithfully,

Encl.: As above

(PRATIK D. BHARNE)
Regional Director

Copy to: -

Regional Officer,
Maharashtra Pollution Control Board,
Udyog Bhavan Building, Near Collectorate Office,
Kolhapur - 416 002

(PRATIK D. BHARNE)
Regional Director

Item No. 06 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 1364/2024

News Item titled "3 dead 9 hospitalized after gas leak blast at fertiliser plant in Maharashtra" appearing in the Times of India dated 22.11.2024

Date of hearing: 12.12.2024

CORAM: HON'BLE MR. JUSTICE PRAKASH SHRIVASTAVA, CHAIRPERSON
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER

ORDER

1. This Original Application is registered *suo-moto* on the basis of the news item titled "3 dead nine hospitalised after gas leak blast at fertiliser plant in Maharashtra" appearing in the "Times of India" dated 22.11.2024.

2. The matter relates to a gas leak and blast at Myanmar Chemical Company located in Shalgaon MIDC, Kadegaon tehsil in Sangli, Maharashtra, resulting in three deaths, including two women and nine hospitalizations. As per the article, the explosion of a reactor at the plant led to the release of chemical fumes, believed to be ammonia. It alleges that due to the gas leak, 12 people were affected and rushed to nearby hospitals were three people succumbed to the exposure.

3. The news item does not reflect that any compensation has been paid to the victims of gas leak.

4. The above news item attracts the provisions of Public Liability Insurance Act, 1991 and the Environment (Protection) Act, 1986.

5. The Tribunal in M.A No. 46/2022 in Original Application No. 05/2022 *In re: News item published in The Indian Express dated 07.01.2022 titled "Gujarat: At least 06 dead, 20 sick after gas leak at industrial area in Surat"* in a similar case of gas leak has awarded the compensation to family members of the victims and passed the following order:-

> *"The heirs of the deceased are entitled to compensation atleast @₹20 lakhs in respect of each death and @₹10 lakhs to each of those who fell sick on principle of restitution laid down inter alia in Sarla Verma (2009) 6 SCC 121 and Uphaar (2011) 14 SCC 481."*

6. The news item raises substantial issues relating to compliance with the environmental norms and implementation of the provisions of scheduled enactment.

7. The power of the Tribunal to take up the matter *suo-motu* has been recognized by the Hon'ble Supreme Court in the matter of *"Municipal Corporation of Greater Mumbai vs. Ankita Sinha & Ors." reported in 2021 SCC Online SC 897.*

8. Hence, we implead following as respondents in this matter:

(1) Member Secretary, Maharashtra Pollution Control Board (MPCB), Kalpataru Point, 3rd and 4th floor, Opp. PVR Cinema, Sion Circle, Mumbai-400 022

(2) Central Pollution Control Board (CPCB), Through its Member Secretary, . Parivesh Bhawan, East Arjun Nagar, Delhi-110032.

(3) Ministry of Environment, Forest and Climate Change (MoEF) Regional Office, Maharashtra, 11 Air Cargo Complex, Sahar, Mumbai - 400099, Maharashtra.

(4) District Magistrate, Sangli, Collector Office, Sangli, Maharashtra

9. Issue notice to the above respondents for filing their response/reply by way of affidavit before the appropriate Bench of the Tribunal at least one week before the next hearing date. If any respondent directly files the reply without routing it through his advocate, then the said respondent will remain virtually present to assist the Tribunal.

10. Since the matter relates to the Western Zonal Bench, Pune, therefore, OA is transferred to the Western Zonal Bench for appropriate further action. The office is directed to transfer the original record of the OA to Western Zonal Bench, Pune.

11. List before Western Zonal Bench at Pune 07.02.2025.

Prakash Shrivastava, CP

Dr. A. Senthil Vel, EM

December 12, 2024
Original Application No. 1364/2024
dv..

केंद्रीय प्रदूषण नियंत्रण बोर्ड
Central Pollution Control Board
(पर्यावरण, वन एवं जलवायु परीवर्तन मंत्रालय, भारत सरकार)
(MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE, GOVT. OF INDIA)

फ़ाइल संख्या: सीएम-13015/27/2024-लॉ आरडी-पुणे-आरडी (पुणे)/ 946 दिनांक: 30/12/2024

सेवा में,

सदस्य सचिव,
महाराष्ट्र प्रदूषण नियंत्रण बोर्ड,
कल्पतरु पॉइंट, तीसरी और चौथी मंजिल,
पीवीआर थिएटर के सामने ,
सायन (ई), मुंबई-400 022

विषयः माननीय एनजीटी के मामले में ओए संख्या 1364/2024 (पीबी) "महाराष्ट्र में उर्वरक संयंत्र में गैस रिसाव विस्फोट के बाद 3 मृत, 9 अस्पताल में भर्ती" शीर्षक से समाचार आइटम दिनांक 22.11.2024 के टाइम्स ऑफ इंडिया में प्रकाशित के संबंध में;

महोदय,

यह माननीय राष्ट्रीय हरित न्यायाधिकरण (एनजीटी) के मामले ओए संख्या 1364/2024 (पीबी) "महाराष्ट्र में उर्वरक संयंत्र में गैस रिसाव विस्फोट के बाद 3 मृत, 9 अस्पताल में भर्ती" शीर्षक से समाचार आइटम दिनांक 22.11.2024 के टाइम्स ऑफ इंडिया में प्रकाशित का संदर्भ है। यह महाराष्ट्र के शालगांव एमआईडीसी, कडेगांव, सांगली में म्यांमार केमिकल कंपनी में गैस रिसाव और विस्फोट के कारण तीन व्यक्तियों की मौत और नौ अन्य के अस्पताल में भर्ती होने की घटना औद्योगिक सुरक्षा, पर्यावरण संरक्षण और कानूनी ढांचे के संबंध में महत्वपूर्ण चिंताएं पैदा करती है।

माननीय एनजीटी, प्रधान पीठ, नई दिल्ली ने उक्त स्वत: संज्ञान मामले में दिनांक 12.12.2024 के आदेश के तहत महाराष्ट्र प्रदूषण नियंत्रण बोर्ड (एमपीसीबी), केंद्रीय प्रदूषण नियंत्रण बोर्ड (सीपीसीबी), पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय (एमओईएफ एंड सीसी) और जिला मजिस्ट्रेट-सांगली को प्रतिवादी के रूप में अपनी प्रतिक्रिया देने के लिए बनाया है। मूल आवेदन (ओए) को उचित अवं आगे की कार्रवाई के लिए माननीय पश्चिमी जोनल बेंच, पुणे को स्थानांतरित कर दिया गया है। माननीय एनजीटी (पीबी) के आदेश दिनांक 12/12/2024 की प्रति संदर्भ के लिए संलग्न है।

इस संबंध में, अनुरोध है कि उक्त आदेश के आलोक में समाचार-वस्तु की जांच करने की व्यवस्था करें और यदि कोई हो तो की गई कार्रवाई रिपोर्ट (एटीआर) प्रदान करें। मामला 07/02/2024 को सूचीबद्ध है।

आपका विश्वासी,

अनुलग्नक: जैसा कि ऊपर दिया गया है

(प्रतीक दि. भरणे)
क्षेत्रीय निदेशक

प्रति: -

क्षेत्रीय अधिकारी,
महाराष्ट्र प्रदूषण नियंत्रण बोर्ड,
उद्योग भवन भवन, कलेक्टरेट कार्यालय के पास,
कोल्हापुर - 416002

(प्रतीक दि. भरणे)
क्षेत्रीय निदेशक

केंद्रीय प्रदूषण नियंत्रण बोर्ड
Central Pollution Control Board
(पर्यावरण, वन एवं जलवायु परीवर्तन मंत्रालय, भारत सरकार)
(MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE, GOVT. OF INDIA)

File No: CM-13015/27/2024-LAW-RD-PUNE-RD (Pune)/ 946 Date: 30/12/2024

To

The Member Secretary,
Maharashtra Pollution Control Board,
Kalpataru Point, 3rd and 4th floor, Opp. PVR Theatre,
Sion (E), Mumbai-400 022

Sub: **Hon'ble NGT Matter in OA No. 1364/2024(PB) in re; News Item titled "3 dead 9 hospitalized after gas leak blast at fertilizer plant in Maharashtra" appearing in the Times of India dated 22.11.2024"– reg.**

Sir,

This has reference to the Hon'ble National Green Tribunal (NGT) Matter in O.A. No. 1364 of 2024 (PB) in News Item titled "3 dead 9 hospitalized after gas leak blast at fertilizer plant in Maharashtra" appearing in the Times of India dated 22.11.2024". The incident involving the death of three individuals and the hospitalization of nine others due to a gas leak and explosion at Myanmar Chemical Company in Shalgaon MIDC, Kadegaon, Sangli, Maharashtra, raises significant concerns regarding industrial safety, environmental protection, and legal frameworks.

Hon'ble NGT, Principal Bench, New Delhi vide order dated 12.12.2024 in the said Suo Motu matter, impleaded the Maharashtra Pollution Control Board (MPCB), Central Pollution Control Board (CPCB), Ministry of Environment, Forest and Climate Change of India (MoEF&CC), and District Magistrate-Sangli, as respondents to file their responses. The Original Application (OA) is transferred to the Hon'ble Western Zonal Bench, Pune for appropriate further action. Copy of Hon'ble NGT(PB) order dated 12/12/2024 is enclosed for ready references.

In this regard, it is requested to kindly arrange to examine the news-item in light of the said order and provide Action Taken Report (ATR), if any. The matter is listed on 07/02/2024.

Yours Faithfully,

Encl.: As above

(PRATIK D. BHARNE)
Regional Director

Copy to: -

Regional Officer,
Maharashtra Pollution Control Board,
Udyog Bhavan Building, Near Collectorate Office,
Kolhapur - 416 002

(PRATIK D. BHARNE)
Regional Director

Item No. 06 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 1364/2024

News Item titled "3 dead 9 hospitalized after gas leak blast at fertiliser plant in Maharashtra" appearing in the Times of India dated 22.11.2024

Date of hearing: 12.12.2024

CORAM: HON'BLE MR. JUSTICE PRAKASH SHRIVASTAVA, CHAIRPERSON
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER

ORDER

1. This Original Application is registered *suo-moto* on the basis of the news item titled "3 dead nine hospitalised after gas leak blast at fertiliser plant in Maharashtra" appearing in the "Times of India" dated 22.11.2024.

2. The matter relates to a gas leak and blast at Myanmar Chemical Company located in Shalgaon MIDC, Kadegaon tehsil in Sangli, Maharashtra, resulting in three deaths, including two women and nine hospitalizations. As per the article, the explosion of a reactor at the plant led to the release of chemical fumes, believed to be ammonia. It alleges that due to the gas leak, 12 people were affected and rushed to nearby hospitals were three people succumbed to the exposure.

3. The news item does not reflect that any compensation has been paid to the victims of gas leak.

4. The above news item attracts the provisions of Public Liability Insurance Act, 1991 and the Environment (Protection) Act, 1986.

5. The Tribunal in M.A No. 46/2022 in Original Application No. 05/2022 *In re: News item published in The Indian Express dated 07.01.2022 titled "Gujarat: At least 06 dead, 20 sick after gas leak at industrial area in Surat"* in a similar case of gas leak has awarded the compensation to family members of the victims and passed the following order:-

> *"The heirs of the deceased are entitled to compensation atleast @₹20 lakhs in respect of each death and @₹10 lakhs to each of those who fell sick on principle of restitution laid down inter alia in Sarla Verma (2009) 6 SCC 121 and Uphaar (2011) 14 SCC 481."*

6. The news item raises substantial issues relating to compliance with the environmental norms and implementation of the provisions of scheduled enactment.

7. The power of the Tribunal to take up the matter *suo-motu* has been recognized by the Hon'ble Supreme Court in the matter of *"Municipal Corporation of Greater Mumbai vs. Ankita Sinha & Ors." reported in 2021 SCC Online SC 897.*

8. Hence, we implead following as respondents in this matter:

(1) Member Secretary, Maharashtra Pollution Control Board (MPCB), Kalpataru Point, 3rd and 4th floor, Opp. PVR Cinema, Sion Circle, Mumbai-400 022

(2) Central Pollution Control Board (CPCB), Through its Member Secretary, Parivesh Bhawan, East Arjun Nagar, Delhi-110032.

(3) Ministry of Environment, Forest and Climate Change (MoEF) Regional Office, Maharashtra, 11 Air Cargo Complex, Sahar, Mumbai - 400099, Maharashtra.

(4) District Magistrate, Sangli, Collector Office, Sangli, Maharashtra

9. Issue notice to the above respondents for filing their response/reply by way of affidavit before the appropriate Bench of the Tribunal at least one week before the next hearing date. If any respondent directly files the reply without routing it through his advocate, then the said respondent will remain virtually present to assist the Tribunal.

10. Since the matter relates to the Western Zonal Bench, Pune, therefore, OA is transferred to the Western Zonal Bench for appropriate further action. The office is directed to transfer the original record of the OA to Western Zonal Bench, Pune.

11. List before Western Zonal Bench at Pune 07.02.2025.

Prakash Shrivastava, CP

Dr. A. Senthil Vel, EM

December 12, 2024
Original Application No. 1364/2024
dv..

59

O.A. No. 1364 of 2024 (PB) in News Item titled "3 dead 9 hospitalized after gas leak blast at fertilizer plant in Maharashtra" appearing in the Times of India dated 22.11.2024”-reg.

Me Me <shailendra.cpcb@gov.in>
Tue, 31 Dec 2024 10:46:06 AM +0530

To "ms" <ms@mpcb.gov.in>, "rokolhapur" <rokolhapur@mpcb.gov.in>, "srosangli" <srosangli@mpcb.gov.in>

Cc "Pratik Bharne" <pratik.cpcb@gov.in>, "NISHCHAL C" <nischal.cpcb@nic.in>, "Avanish Nath Tripathi" <atripathi.cpcb@gov.in>, "Bandhu Kamal" <kamalbandhu.cpcb@gov.in>, "KRISHAN KUMAR GUPTA" <kkgupta.cpcb@gov.in>, "NGTZB, CPCB" <ngtzb.cpcb@gov.in>

Sir/Madam,

I am directed to refer to the CPCB RD-Pune letter dated 30.12.2024 in Hon'ble NGT Matter in O.A. No. 1364 of 2024 (PB) in News Item titled "3 dead 9 hospitalized after gas leak blast at fertilizer plant in Maharashtra" appearing in the Times of India dated 22.11.2024”. The incident involving the death of three individuals and the hospitalization of nine others due to a gas leak and explosion at Myanmar Chemical Company in Shalgaon MIDC, Kadegaon, Sangli, Maharashtra.

In this regard, it is requested to kindly arrange to examine the matter and provide Action Taken Report (ATR), if any. The matter is listed on 07/02/2024.

सादर / Regards

शैलेन्द्र बंसल / Shailendra Bansal
सहायक विधि अधिकारी / Assistant law Officer
क्षेत्रीय निदेशालय, पुणे / Regional directorate, Pune
केंद्रीय प्रदूषण नियंत्रण बोर्ड / Central Pollution Control Board

1 Attachment(s) • Download as Zip

letter dtd. 30.12.2024 in OA no.... .pdf
2.4 MB •

60

Annexure-R2-II

Fwd: Fw: CPCB Letter with NGT OA No. 1364 of 2024 Suo moto Application Gas Leakages Sangli

NC NISHCHAL C <nischal.cpcb@nic.in>
Wed, 22 Jan 2025 6:20:00 PM +0530
To "SHAILENDRA BANSAL" <shailendra.cpcb@gov.in>
Cc "Pratik Bharne" <pratik.cpcb@gov.in>

Please refer the reply recieved from MPCB and put-up the draft reply affidavit incorporating the relavent information.

Regards,

निश्चल सी. / Nishchal C.
वैज्ञानिक 'ई' / Scientist 'E'
केंद्रीय प्रदूषण नियंत्रण बोर्ड, क्षेत्रीय निदेशालय - पुणे, महाराष्ट्र
Central Pollution Control Board, Regional Directorate - Pune, Maharashtra
(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार)
(M/o Environment, Forest & Climate Change, Govt. of India)
Mob: +91 97220 17220

========== Forwarded message ==========
From: SRO Sangli <srosangli@mpcb.gov.in>
To: "nischal.cpcb@nic.in"<nischal.cpcb@nic.in>
Date: Wed, 22 Jan 2025 18:17:30 +0530
Subject: Fw: CPCB Letter with NGT OA No. 1364 of 2024 Suo moto Application Gas Leakages Sangli
========== Forwarded message ==========

Sir,

As discussed please find attached here with Details about M/s. Manmar Industries , MIDC Shalgaon, TAl. KAdegaon, Dist. Sangli with respect to Hon'ble NGT OA No. 1364 of 2024 Suo moto Application Gas Leakages Sangli.

Submitted for information please.

With Regards,

(V V Killedar)
Sub Regional Officer,
Sangli.

61

From: SRO Sangli
Sent: Thursday, January 16, 2025 5:09 PM
To: RO Kolhapur <rokolhapur@mpcb.gov.in>
Subject: CPCB Letter with NGT OA No. 1364 of 2024 Suo moto Application Gas Leakages Sangli

Sir,
Please find attached herewith information of M/s . Manmar Industries, Plot No. A- 53 MIDC Shalgaon regarding NGT OA No. 1364 of 2024 Suo moto Application Gas Leakages Sangli.

Submitted for further needful please.

With Regards,

(V V Killedar)
Sub Regional Officer,
Sangli.

11 Attachment(s) • Download as Zip • Add To ›

- कडेगाव -शळगाव समिती गठन पत्र.pdf
  379.9 KB •
- manmar white catgory cons… .pdf
  115.8 KB •
- Green Gene PD.pdf
  754.5 KB •
- Shree vitthal chemical PD.pdf
  803.2 KB •
- Maharashtra Enviro (1).pdf
  767.2 KB •
- Kadegaon Police FIR letter.pdf
  277.3 KB •
- Direction 22-11-2024.pdf

54.7 KB •

Manmar Industries CD (1).pdf
890.9 KB •

Dish Letter 02-12-2024.pdf
66 KB •

MWM.pdf
86.1 KB •

Manmar Office Note.docx
17.4 KB •

जिल्हाधिकारी कार्यालय सांगली (आपत्ती व्यवस्थापन)
सांगली - मिरज रोड, विजयनगर सांगली
दूरध्वनी क्र. 0233-2600500 Email id - sanglirdc@gmail.com

क्र.गृह1/आ.व्य/आरआर- 521/२०२४ दिनांक:- 23/११/२०२४

आदेश

विषय: कडेगाव तालुक्यातील बोंबलेवाडी-शाळगाव येथील औद्योगिक क्षेत्रातील रासायनिक कंपनीमध्ये घडलेल्या दुर्घटनेच्या पार्श्वभूमीवर समिती गठित करणेबाबत

उपरोक्त विषयास अनूसरून दि.२१/११/२०२४ रोजी कडेगाव तालुक्यातील बोंबलेवाडी-शाळगाव येथील औद्योगिक क्षेत्रातील रासायनिक कंपनीमध्ये दुर्घटनेमध्ये ३ मयत व्यक्ती झालेली आहेत.सदर ठिकाणी दि.२२/११/२०२४ रोजी मा.जिल्हाधिकारीसो व मा.पोलिस अधिक्षक सांगली यांनी दिलेल्या भेटीमध्ये संबंधित गावांचे नागरिकांनी तेथील प्रश्नाबाबत निवेदन दिले. या पार्श्वभूमीवर औद्योगिक क्षेत्रातील प्रश्नाबाबत कार्यवाहीबाबत व उपाययोजना करणेकामीखालील प्रमाणे समिती गठित करण्यात येत आहे.

1.	अधिकारी यांचे पदनाम	समितीमधील सदस्य
2	प्रादेशिक अधिकारी, महाराष्ट्र औद्योगिक महामंडळ सांगली	अध्यक्ष
3	उपप्रादेशिक अधिकारी, महाराष्ट्र प्रदूषण महामंडळ सांगली	सदस्य
4	सहा.कामगार आयुक्त,सांगली	सदस्य
5	तहसिलदार कडेगाव प्रतिनिधी	सदस्य
6	पोलिस विभाग कडेगाव प्रतिनिधी	सदस्य
7	औद्योगिक क्षेत्राजवळील गावांचे प्रतिनिधी(सरपंच +१ महिला सदस्य) (शाळगाव,रायगाव बोबंलेवाडी इ.)	सदस्य
8	उपसंचालक, औद्योगिक सुरक्षा व आरोग्य संचलनालय, सांगली	सद्स्य सचिव

वरील प्रमाणे गठीत करण्यात आलेल्या समितीने एम.आय.डी.सी कार्यक्षेत्रातील विठ्ठल केमिकल कंपनी,ग्रीन जी कंपनी व सह्याद्री केमिकल कंपनी बाबत खालील प्रमाणे कार्ये करणे

1. एम.आय.डी.सी मधील जागांचे अतिक्रमण बाबत कामकाज,कारखाना जागा मंजुरी,सांडपाणी उपाययोजना अहवाल तयार करणे
2. औद्योगिक क्षेत्रातील सांडपाणी, वाय प्रदूषण, जल प्रदूषण बाबत कामकाज व नियमानुसार कार्यवाही करणे
3. स्थानिक कामगारांचे अनुषंगाने कामगार नियमांचे पालन
4. संबंधित विभागाने झालेल्या दुर्घटनेबाबत तपासणी दरम्यान आढळलेल्या त्रुटीबाबत केलेल्या कार्यवाहीबाबतचा अहवाल सादर करणे.
5. स्थानिक ग्रामस्थांचे औद्योगिक क्षेत्राबाबतचे प्रश्न

वरील प्रमाणे केलेल्या कार्यवाही व आवश्यक उपाययोजनाबाबतचा सविस्तर अहवाल समितीने १५ दिवसात समक्ष सादर करण्यात यावा.

(डॉ.राजा दयानिधी भा.प्र.से)
जिल्हाधिकारी तथा अध्यक्ष
जिल्हा आपत्ती व्यवस्थापन प्राधिकरण, सांगली

प्रत : संबंधित विभागप्रमुख, सर्व

Maharashtra Pollution Control Board

महाराष्ट्र प्रदूषण नियंत्रण मंडळ

Submitted to : SRO-Sangli, 300/2 , Udyog Bhavan , Near Government Rest House , Vishrambaug , Sangli - 416 416

Undertaking to be Submitted by Industry Falling Under 'white' Category

To :The Member secretary,
Maharashtra Pollution Control Board
Sion, Mumbai.

Sub: Undertaking about our industry being under 'white' category.

Ref: 1. Modified direction of C.P.C Board for categorization of industries under Red/Orange/Green & White category dtd. 07/03/2016

Sir,
We are submitting undertaking towards establishment & operation of our industry falling under 'white' category as per C.P.C Board's modification directions dtd. 07/03/2016 for categorization of industries under Red/Orange/Green & White category
We hereby undertake that:

1. We will comply with the provisions of the water (Prevention & Control of Pollution) ACT, 1974; the Air (Prevention & Control of Pollution) ACT, 1981; the Water CESS Act ,1977 & the Environment Protection Act, 1986.

2. We underatke to comply with any further direction issued by the M.P.C. Board and / or C.P.C. Board under the provision of the Water (Prevention & Control of Pollution) ACT, 1974; the Air (Prevention & Control of Pollution) ACT, 1981 & the Environment Protection Act, 1986

3. We are submitting the details our activity as follows.

---

a) General Details of Industry

Name	*Address*	*Industry Type:*
M/S MANMAR INDUSTRIES	PLOT NO. A-53 SHALGAON-BOMBALEWADI INDUSTRIAL AREA	W4 Bio fertilizer and bio-pesticides without using inorganic chemicals
Pincode	***District***	
415304	00000033	
Taluka	***Village***	
KADEGAON	BOMBALEWADI	
Name of Proprietor	***Name of Managing Director***	***Name of Managing Partner***
MANDAR NANDKUMAR NALAVADE	PROPRIETARY	PROPRIETARY
Telephone	***Mobile***	***Fax***
9975663801	8484099970	0
Email	***Pan Card***	
MANDARNALAVADE@GMAIL.COM	AEOPN8136L	

Capital Investment (Rs. in lacks);	Date of Establishment
150	Jan 1, 2021

Plot / Land Details: (in Meters)

Total Plot / Land Area	Built Up Area	Open Space Available
3500	1400	2100

Green Belt

Area covered under Green Belt in (Square Meters)	No. of Tree Planted in Numbers
500	100

Name of Authority	License/Permit No
R O MIDC SANGLI	UDYAM-MH-30-0028530

b) Details of Product

Name of Product	Quantity / Month
1. P G R , MICRONUTRIANT	3000 TON/M
2. PROTEIN, HYDROLYSE	3000 TON/M

b) Details of ByProduct

Name of Byproduct	Quantity / Month
1. NA	0

c) Details of Water Budgeting

Purpose	Source	Water Consumption Quantity Ltrs/day	Effluent generaton Quantity Ltrs/day	Treatment	Mode of Disposal
Domestic	SHALGAON BOMBALEWADI INDUSTRIAL AREA	1.0	0.5	SEPTIC TANK MWILL BE PROVIED	ON LAND FOR GARDENING
Process/Cooling/Boiler etc	0	0	0	OTHERS	0

d) Details of Water CESS (for Water Consumption ≥ 10,000 Ltrs. & Hazardous Waste generating Unit)

Cess Paid (Y / N)	Cess Returns filed upto period	Cess Paid upto period
No	Jan 1, 1900	Jan 1, 1900

e) Our industry does not have any process emissions, flue gas from boiler, D.G. Set or any sort of fugitive emission.

Source of Pollution	Fuel Consumption Ltrs/Hr	Stack attached to/D.G. Set Capacity	Height of Stack/Chimney	Details of Control Equipment Provided
Process	NA	NA	NA	NA
D.G. Set	NA	NA	NA	NA
Any Other Source	100 H P	ELECTRICITY	NA	NA

f) i) Our industry do not have any hazardous waste generated is defined in hazardous rules 2016
ii) Details of Non-hazardous Solid Waste Generation & its Disposal

Type of Waste	Quantity / Month	Mode of Disposal
1. NA	0	NA

g) Any Other Remarks (If Any) NA

4. I / We further declare that the information furnished above is correct to the best of my / our knowledge.

5. I / We hereby submit that in case of any change from what is stated in this application in respect of products, a fresh initimation letter will be submitted in case of 'White' category products and in case of change in product falling in any other category i.e. Red, Orange, or Green category, a fresh application in prescribed format will be submiited in th board for obtaining Consent to Establish / Operate under the provisions of the water (Prevention & Control of Pollution) Act, 1981.
Act, 1974; the Air (Prevention & Control of Pollution) Act, 1981.

6. I am duly authorized by the company to submit this initimation letter. In case of any misleading information / concealment of material facts or wrong information revealed by the Board, the Company will be liable for further necessary legal action.

7. The above self -certficate is true and correct to the best of my knowledge and belief and i have personally verified the above contents by perusal of all documents available with the company.

8. In case, the Board Officials during visit or scrutiny find that the products/ process are not falling under White category, we will submit our application for obtaining Consent from the Board.

Place	***Name***
BOMBALEWADI	MANDAR NANDKUMAR NALAVADE
Date	***Designation***
Dec 26, 2021	PROPRIETARY

Receipt / Acknowledgement:

The board has noted your intimation for "White Category" of your industry M/s
Address: *on the basis of undertaking given.*

***This is auto generated receipt hence signature is not required.*

MAHARASHTRA POLLUTION CONTROL BOARD
REGIONAL OFFICE, KOLHAPUR.

Tel. No. (0231) 2652952, 2660448 Fax No. (0231) 2652952. E-mail: rokolhapur@mpcb.gov.in	"Your Service is Our Duty"	Udyog Bhavan, Near Collector Office, Kolhapur - 416 003. Website:http://mpcb.mah.nic.in

MPCB/ROKP/PD/ 0002 Date: 06/12/2024

To,
M/S. Green Gene Enviro Protection and Infrastructure Pvt. Ltd.,
Plot no. B-18, Shalgaon Bombalewadi Industrial Area, Sangli,
Dist - Sangli,

Sub: Proposed Directions under section 33 A of Water (Prevention & Control of Pollution) Act, 1974.

Ref:
1. Hon'ble District Collector, Sangli has constituted Joint Committee under Chairmanship of Regional officer, MIDC, Sangli vide letter dtd. 23-11-2024.
2. Joint Committee visit on 29.11.2024.
3. Legal Action Proposal submitted by SRO Sangli vide no. MPCB-LEGAL_ACTIONS- 021224018 on 02.12.2024.

.....

WHEREAS, the Maharashtra Pollution Control Board has granted Consent to Operate u/s 26 of the Water (Prevention and Control of Pollution) Act, 1974 and u/s 21 of the Air (Prevention and Control of Pollution) Act, 1981 & Authorization under Rule 6 of the Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016.

AND WHEREAS, it is obligatory on the part of industry to provide & operate adequate pollution control devices so as not to cause any sort of pollution problem in the surrounding area and to achieve consented standards.

AND WHEREAS, the Hon'ble District Collector, Sangli has constituted Joint Committee under Chairmanship of Regional officer MIDC and Assistant Director, DISH is a Member Secretary of Committee & MPCB, Tahsildar Kadegaon, Police Officer Kadegaon , Labour Officer, Sangli and Sarpanch etc vide reference no 01. **AND WHEREAS**, the Joint committee has visited to the industry on 29-11-2024. **AND WHEREAS**, SRO Sangli has submitted proposal for legal action against the industry due to following non-compliances:-

1. Industry has not provided online monitoring system for BOD & SS parameters to STP outlet.
2. The sampling arrangement to the scrubber stack is not provided.
3. Industry has installed dryer however the same is not incorporated in consent.
4. The bank guarantee of Rs. 5.0/- lacs valid up to 11-08-2022 has not yet been renewed.

AND WHEREAS, it is noticed that the industry has failed to comply with the consent conditions & violating the provisions of various environmental enactments knowingly & wilfully.

NOW THEREFORE, in view of the above non-compliance, you are hereby directed to show cause as to:

1. Why your industrial activities shall not be closed down?
2. Why the competent Authorities shall not be directed to disconnect water/ electricity supply to your unit?

You are hereby given an opportunity to respond within 7 days from issuance of these directions, failing which, MPCB will initiate legal action against your unit without giving any further notice in accordance with the provisions of the Water (prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1981, which may be noted.

(J. S. Hajare)
Regional Officer, Kolhapur

Copy submitted to:- Joint Director (APC), M. P. C. Board, Mumbai.

Copy to:- Sub-Regional Officer, M.P.C. Board, Kolhapur - It is directed to serve the said notice to the industry & report the compliance accordingly.

MAHARASHTRA POLLUTION CONTROL BOARD
REGIONAL OFFICE, KOLHAPUR.

Tel. No. (0231) 2652952,
2660448
Fax No. (0231) 2652952
E-mail:
rokolhapur@mpcb.gov.in

Udyog Bhavan,
Near Collector Office,
Kolhapur - 416 003.
Website:http://mpcb.mah.nic.in

"Your Service is Our Duty"

No. MPCB/RO/KOP/Direction/ FTS- 0234 Date: 09 /12 /2024.

To,
M/s. Maharashtra Enviro Power Ltd.,
Plot No. P-56, MIDC Rajangaon,
Tal-Shirur, Dist-Pune. 412 210.

Sub: Directions for disposal of Hazardous Waste from M/s. Manmar Industries, Plot No. A-53, MIDC Shalgaon, Tal. Kdegaon, Dist. Sangli.

Ref:
1. Consent to Operate granted by Board.
2. Gas Leakage incidence occurred at M/s. Manmar Industries, Plot No. A-53, MIDC Shalgaon, Tal. Kdegaon, Dist. Sangli, on 21.11.2024.
3. Visit of your team dtd. 03-12-2024.
4. Your email dtd. 06-12-2024- regarding analysis report.
5. Office Note approved by Hon'ble Member Secretary. M.P.C. Board, Mumbai dated 09-12-2024.

WHEREAS, Board has granted conditional consent to operate to your facility with certain terms and conditions therein located on above address vide ref. no. 1.

AND WHEREAS, Gas Leakage incidence was occurred at M/s. Manmar Industries, Plot No. A-53, MIDC Shalgaon, Tal. Kdegaon, Dist. Sangli, on 21.11.2024 wherein 3 workers were died and 8 workers were injured. Accordingly Board Office has issued Closure Directions and Direction to Dispose Hazardous Waste generated due to incidence to the above said industry.

AND WHEREAS your team has visited the said industry on 03.12.204 and collected samples from reactors from the factory. And submitted analysis results of the sample vide email dtd. 06-12-2024.

NOW THEREFORE, in exercise of the powers conferred by the Board upon me you are directed to collect pretreat, transport and dispose all above material in accordance with the Hazardous and Other Waste (M&TM) Rules, 2016 in scientific manner using standard operating practices safely.

While performing above work following precautions shall be taken as per your mail dtd. 06-12-2024 -

1. You shall conduct controlled neutralization using an aqueous alkaline solution in a well-ventilated tank/ containment system by taking all safety measures.
2. During pretreatment you shall take all precautionary measures to avoid any Release of gases/chemicals.
3. During transportation of material, please ensure that the material Should be filled in IBC/ HDPE DRUM with sealed and labelled to avoid any Leakages.
4. You shall dispose of all Hazardous Waste and any other chemical contaminated Material to CHWTSDF in a scientific manner under supervision of Department of Industrial Safety and Health and local Police Administration on priority and submit the manifest copies to this office.

You may submit the invoice bill for the above work to M.P.C. Board.

This is issued with the approval of competent authority.

(J. S. Hajare)
Regional Officer, Kolhapur

Copy submitted for favor of information to:-

1. Member Secretary, MPC Board Mumbai.
2. The District Collector, Sangli.
3. Joint Director (APC) MPC Board Mumbai.

Copy for information necessary follow up action to-

Sub Regional Officer, Maharashtra Pollution Control Board, Sangli.
– He is directed to take follow-up for the compliance of the above said directions.

N.C.R.B (एन.सी.आर.बी)

I.I.F.-I (एकीकृत अन्वेषण फॉर्म - १)

FIRST INFORMATION REPORT

(Under Section 173 B.N.S.S)

प्रथम खबर अहवाल

(कलम बी एन एस एस १७३ च्या अंतर्गत)

1. **District (जिल्हा):** सांगली **P.S.(ठाणे):** कडेगांव

FIR No.(प्रथम खबर क्र.): 0237 **Year (वर्ष):** 2024

Date and Time of FIR (प्र. ख. दिनांक आणि वेळ): 22/11/2024 20:53

2.

S.No. (अ.क्र.)	Acts (अधिनियम)	Sections (कलम)
1	भारतीय न्याय संहिता (बी एन एस), 2023	105
2	भारतीय न्याय संहिता (बी एन एस), 2023	110
3	भारतीय न्याय संहिता (बी एन एस), 2023	270
4	भारतीय न्याय संहिता (बी एन एस), 2023	286
5	भारतीय न्याय संहिता (बी एन एस), 2023	3(5)

3. (a) **Occurrence of offence (गुन्ह्याची घटना):**

1. **Day(दिवस):** गुरूवार **Date From (दिनांक पासून):** 21/11/2024

Time Period (कालावधी): पहर 6 **Date To (दिनांक पर्यंत):** 21/11/2024

Time From (वेळेपासून): 18:15 बजे

Time To (वेळेपर्यंत): 18:15 बजे

(b) **Information received at P.S. (माहिती मिळालेले पोलीस ठाणे):**

Date (दिनांक): 22/11/2024 **Time (वेळ):** 20:53 बजे

(c) **General Diary Reference (रोजनामचा संदर्भ):**

Entry No. (नोंद क्र.): 017

Date & Time (दिनांक आणि वेळ): 22/11/2024 20:53 बजे

4. **Type of Information (माहितीचा प्रकार):** लेखी

5. **Place of Occurrence (घटनास्थळ):**

1.(a) **Direction and distance from P.S.(पोलीस ठाण्यापासून दिशा व अंतर):**

उत्तर, 18 किमी **Beat No. (बिट क्र.):**

(b) **Address (पत्ता):** MIDC गट नं A53, बोंबाळेवाडी ,कडेगांव

(c) **In case, outside the limit of this Police Station, then (या पोलीस ठाण्याच्या हद्दीबाहेर असल्यास):**

Name of P.S.(पोलीस ठाण्याचे नाव):

District(State) (जिल्हा(राज्य)):

6. **Complainant / Informant** (तक्रारदार/माहिती देणारा):

(a) **Name** (नाव): विद्यासागर विलासराव किल्लेदार

(b) **Father's/Husband's Name**(वडील / पती चे नाव) :

(c) **Date/Year of Birth** (जन्म तारीख/वर्ष): 1974

(d) **Nationality** (राष्ट्रीयत्व): भारत

(e) **UID No.** (यु.आय.डी. क्र.):

(f) **Passport No.**(पारपत्र क्र.):

Date of Issue (दिल्याची तारीख):

Place of Issue (दिल्याचे ठिकाण):

(g) **ID details (Ration Card,Voter ID Card,Passport,UID No.,Driving License, PAN)** ओळखपत्र विवरण (राशन कार्ड ,मतदाता कार्ड ,पासपोर्ट, यूआईडी सं., ड्राइविंग लाइसेंस, पॅन कार्ड)

S.No. (अ.क्र.)	ID Type (ओळखपत्राचा प्रकार)	ID Number (ओळखपत्राचा क्रमांक)
1		

(h) **Address** (पत्ता):

S.No. (अ.क्र.)	Address Type (पत्याचा प्रकार)	Address (पत्ता)
1	वर्तमान पता	यादववाडी उचगांव,करवीर,कोल्हापुर,महाराष्ट्र,भारत
2	स्थायी पता	यादववाडी उचगांव,करवीर,कोल्हापुर,महाराष्ट्र,भारत

(i) **Occupation** (व्यवसाय): नोकरी

(j) **Phone number** (फोन नं.):

Mobile (मोबाइल नं.): 91-9422426100

7. **Details of known/suspected/unknown accused with full particulars** (माहीत असलेल्या /संशयीत/अनोळखी आरोपीचा संपूर्ण पत्ता):

S.No. (अ.क्र.)	Name (नाव)	Alias (उर्फनाव)	Relative's Name (नातेवाईकाचे नाव)	Present Address (वर्तमान पता)
1	नंदकुमार जगन्नाथ नलवडे			1. मसूर ,कराड,कडेगाव,सांगली, महाराष्ट्र,भारत
2	मंदार नंदकुमार नलवडे			1. मसूर,कराड,कोल्हापुर,महाराष्ट्र, भारत

8. **Reasons for delay in reporting by the complainant/informant** (तक्रारदार/माहिती देणा-याकडून तक्रार करण्यातील विलंबाची कारणे):

9. **Particulars of properties of interest** (संबंधीत मालमत्तेचा तपशील):

S.No. (अ.क्र.)	Property Category (मालमत्ता वर्ग)	Property Type (मालमत्ता प्रकार)	Description (वर्णन)	Value(In Rs/-) (मुल्य (रू.

10 Total value of property (In Rs/-)
(चोरीस गेलेल्या मालमत्तेचे एकूण मुल्य (रू. मध्ये)):

11.Inquest Report / U.D. case No., if any
(इन्क्वेस्ट अहवाल/ अकस्मात मृत्यू प्रकरण क्र.,जर असल्यास)):

S.No. (अ.क्र.)	UIDB Number (यु.आय.डी.बी.क्र.)

12.First Information contents (प्रथम खबर हकीकत):

वर्दीजबाब दिनांक 22/11/2024

मी विद्यासागर विलासराव किल्लेदार वय 50वर्ष ,व्यवसाय नोकरी , उपप्रादेशीक अधिकारी, महाराष्ट्र प्रदुषण नियंत्रण मंडळ सांगली, रा.यादववाडी उचगांव, ता.करवीर, जि.कोल्हापूर मो.नं. 9422426100

समक्ष पोलीस ठाणेत हजर राहून लिहून देतो वर्दीजबाब की, मी वरील प्रमाणे असून वरील ठिकाणी घरी मी कुटूंबासमवेत राहणेस आहे. मी महाराष्ट्र प्रदुषण नियंत्रण मंडळ सांगली येथे उपप्रादेशीक अधिकारी म्हणून मी ऑगष्ट 2024 पासून कार्यरत आहे. आमचे कार्यालयामधील सर्व प्रकारचे उद्योगांना संमतीपत्र देत असतो. तसेच उद्योगांची पाहणी करून प्रदूषण नियंत्रणेची तपासणी करणे अशी कामे केली जातात.

दिनांक 21/11/2024 रोजी सायंकाळी 06.15 वा.चे सुमारास विजय मुळीक उपसरपंच शाळगांव यांचा आमचे क्षेत्राधिकारी जयदिप कुंभार यांचा मो.नं. 9623548254 यावरती टेक्स मँसेज आला त्यामध्ये त्यांनी आंम्हास बोंबाळेवाडी MIDC प्लॉट नं. A53 मध्ये असलेल्या मँनमार इंडस्ट्रीज या कंपनीमध्ये वायुगळती झाली असलेबाबत कळविले. त्याप्रमाणे मी व आमचे क्षेत्राधिकारी जयदीप कुंभार असे तात्काळ सांगली येथून बोंबाळेवाडी MIDC येथे दाखल झालो. तेव्हा तेथे औद्योगीय सुरक्षा व आरोग्य संचनालय सांगली यांचेकडील प्रवीण बोंडर सहा. संचालक हे उपस्थित होते. तेव्हा आसपासचे गावातील लोक व सरपंच, उपसरपंच, पोलीस असे हजर होते. आंम्ही मँनमार इंडस्ट्रीज या कंपनीचे नोंदनी बाबतची दस्त ऐवजाची पडताळणी केली असता सदर कंपनी मालक यांनी आमचे कार्यालयाकडील कोणत्याही प्रकारची परवानगी घेतली नसल्याचे दिसून आले. त्यानंतर तेथे उपस्थित लोकांचेकडून आंम्हास सदरची मँनमार इंडस्ट्रीज ही कंपनी नंदकुमार जगन्नाथ नलवडे व त्यांचा मुलगा मंदार नंदकुमार नलवडे रा.मसूर ता.कराड, जि.सातारा यांचे मालकीची असल्याचे समजून आले. तसेच सदर कंपनीमध्ये वायुगळती झालेली असून त्यामध्ये 10 ते 12 लोक जखमी झाले असल्याचे समजून आले. परंतू सदरची वेळ ही रात्रीची असल्याने व सुरक्षेची उपकरणे उपलब्ध नसल्याने सदर उद्योगामध्ये जावून पाहणी करता आली नाही. तेव्हा प्रवीण बोंडर सहा.संचालक औद्योगीक सुरक्षा व आरोग्य संचनालय सांगली यांनी उदईक रोजी सर्व कीट व टिम सह येवून पाहणी करणेबाबत कळविले. त्यानंतर जिल्हा आपत्ती व्यवस्थापन समीतीकडील श्री. नदाफ यांनी तेथील सर्व उपस्थितीत लोकांना प्राथमिक सुरक्षेबाबत माहीती देवून आंम्ही सर्वजन सांगली येथे निघून गेलो.

आज दिनांक 22/11/2024 रोजी आंम्ही पुन्हा औद्योगीक सुरक्षा व आरोग्य संचनालय सांगली यांचेकडील पथकासह बोंबाळेवाडी MIDC गट नं. A53 मध्ये असलेल्या मँनमार इंडस्ट्रीज येथे भेट देवून पाहणी केली. त्यावेळी आंम्हास तेथे कंपनीमधील काचेचा कंडेसर फुटल्याने त्यातून केमिकल बाहेर येवून त्याव्दारे वायुगळती झाले असल्याचे समजून आले. तेव्हा आंम्ही सदर कंपनीचे मालक यांचेकडे चौकशी केली असता त्यांनी आंम्हास सदर ठिकाणी ट्रायक्लोरो इथेलीन गँस असल्याचे सांगीतले. त्यांनतर औद्योगीक सुरक्षा व आरोग्य संचनालय सांगली यांचेकडील पथकाने सदर ठिकाणचे नमुने तपासणीकरीता घेतलेले आहेत. तसेच सदर कंपनी मालक यांनी आमचे कार्यालयाकडील परवानगी न घेता उद्योग सुरू केल्याने सदर कंपनीमधील उद्योग बंद होणेबाबत आंम्ही महाराष्ट्र प्रदुषण नियंत्रण मंडळ प्रादेशीक कार्यालय कोल्हापूर येथे पत्रव्यवहार केला असून त्याप्रमाणे प्रादेशीक कार्यालयाकडून तसे आदेश जारी करण्यात आलेले आहेत.

बोंबाळेवाडी येथे उपस्थीत नागरीकांचे तसेच सरपंच, उपसरपंच, पोलीस पाटील यांचेकडून सदर कंपनीमध्ये दिनांक 21/11/2024 रोजी सायंकाळी 06.15वा.चे सुमारास वायु गळती झालेने इसम नामे 1) गणेश सर्जेराव माने वय.37 वर्षे, रा.बोंबाळेवाडी, 2) माधुरी हेमंत पूजारी वय. 45 वर्षे, रा.बोंबाळेवाडी, 3) हेमंत वामन पूजारी वय. 47 वर्षे, रा.बोंबाळेवाडी, 4) सायली वामन पूजारी वय. 22 वर्षे, रा.बोंबाळेवाडी,5) शुभम अर्जून यादव वय. 30वर्षे, रा.शाळगांव,6) प्राजक्ता पोपट मुळीक वय.24 वर्षे, रा.शाळगांव, 7) वरद पोपट मुळीक वय. 07 वर्षे रा.शाळगांव, 8) अजित विजय कांभीरे वय. 27 वर्षे, रा.मसूर, 9) मंदार नंदकुमार नलवडे वय. 39 वर्षे, रा.मसूर,

10) सुचित्रा राजेश उथळे वय. 45 वर्षे, रा.येतगांव, 11) निलम मारूती रेठरेकर वय. 26 वर्षे, रा.मसूर, 12) किशोर तात्यासो सापकर वय.38 वर्षे, रा.बोंबाळेवाडी असे कंपनीमधील कामगार व आजुबाजूचे रहिवाशी इसम जखमी झाले असून त्यांना उपचाराकरीता कराड येथे सिध्दीविनायक, सह्याद्री, कृष्णा हॉस्पिटल येथे दाखल करण्यात आले असल्याचे तसेच त्यापैकी 1) सुचित्रा राजेश उथळे वय. 45 वर्षे, रा.येतगांव, 2) निलम मारूती रेठरेकर वय. 26 वर्षे, रा.मसूर, 3)किशोर तात्यासो सापकर वय.38 वर्षे, रा.बोंबाळेवाडी यांचा उपचारादरम्यान मृत्यू झाला असल्याचे समजले आहे. त्यानंतर आंम्ही आज रोजी सदर घडले प्रकाराबाबत तक्रार देणेकरीता पोलीस ठाणेस आलो आहे.

तरी नंदकुमार जगन्नाथ नलवडे व त्यांचा मुलगा मंदार नंदकुमार नलवडे रा.मसूर ता.कराड, जि.सातारा यांनी त्यांची मॅनमार इंडस्ट्रीज ही कंपनी महाराष्ट्र प्रदुषण नियंत्रण मंडळ सांगली यांचेकडील परवाना न घेता त्यामध्ये उत्पादन घेवून ते घेत असताना वायू गळती होवून त्यामध्ये जीवीत हानी होवू शकते याची जाणीव असताना त्याबाबत सुरक्षीची काहीएक उपाययोजना न करता हेतुपुरस्पर कंपनी चालू केली असून सदर कंपनीमध्ये दिनांक 21/11/2024 रोजी सायंकाळी 06.15 वा.चे सुमारास उत्पादन करीत असताना कंपनीमधील काचेचा कंडेसर फुटल्याने त्यातून केमिकल बाहेर येवून त्याव्दारे वायुगळती झाल्याने त्याचा त्रास होवून मयत नामे 1) सुचित्रा राजेश उथळे वय. 45 वर्षे, रा.येतगांव, 2) निलम मारूती रेठरेकर वय. 26 वर्षे, रा.मसूर, 3)किशोर तात्यासो सापकर वय.38 वर्षे, रा.बोंबाळेवाडी यांचा मृत्यू घडवून आणणेस तसेच इतर 1) गणेश सर्जेराव माने वय.37 वर्षे, रा. बोंबाळेवाडी, 2) माधुरी हेमंत पूजारी वय. 45 वर्षे, रा.बोंबाळेवाडी, 3) हेमंत वामन पूजारी वय. 47 वर्षे, रा. बोंबाळेवाडी, 4) सायली वामन पूजारी वय. 22 वर्षे, रा.बोंबाळेवाडी,5) शुभम अर्जून यादव वय. 30वर्षे, रा. शाळगांव,6) प्राजक्ता पोपट मुळीक वय.24 वर्षे, रा.शाळगांव, 7) वरद पोपट मुळीक वय. 07 वर्षे रा.शाळगांव, 8) अजित विजय कांभीरे वय. 27 वर्षे, रा.मसूर, 9) मंदार नंदकुमार नलवडे वय. 39 वर्षे, रा.मसूर यांना गंभीर जखमी केले आहे. म्हणून माझी कंपनीचे मालक नंदकुमार जगन्नाथ नलवडे व त्यांचा मुलगा मंदार नंदकुमार नलवडे रा.मसूर ता.कराड, जि.सातारा यांचेविरूध्द सदोष मनुष्यवध द सदोष मनुष्यवधाबाबतचा प्रयत्न केल्याबाबतचा तक्रार आहे.

13. Action taken: Since the above information reveals commission of offence(s) u/s as mentioned at Item No. 2. (केलेली कारवाईः बाब क्र.२ मध्ये नमूद केलेल्या कलमान्वये वरील अहवालावरून अपराध घडल्याचे.)

(1) **Registered the case and took up the investigation:** (प्रकरण नोंदविले आणि तपासाचे काम हांती घेतले):

SANGRAM Atmaram SHEWALE(I (Inspector)) / 16101000450SASM80010 **or** (किंवा)

(2) **Directed (Name of I.O.)** (तपास अधिका-याचे नाव):

Rank (पद): **No.**(क्र.):

to take up the Investigation (ला तपास करण्याचे अधिकार दिले) **or** (किंवा)

(3) **Refused investigation due to** (ज्या कारणामुळे तपास करण्यास नकार दिला):

or (ज्या कारणामुळे तपास करण्यास नकार दिला)

(4) **Transferred to P.S.**
(गुन्हा दुसरीकडे पाठविला असल्यास त्या पोलीस ठाण्याचे नाव):

District (जिल्हा):

on point of jurisdiction (को क्षेत्राधिकार के कारण हस्तांतरित) .

F.I.R. read over to the complainant / informant,admitted to be correctly recorded and a copy given to the complainant / informant free of cost. (प्रथम खबर तक्रारदाराला/खबरीला वाचून दाखविली, बरोबर नोंदविली असल्याचे त्याने मान्य केले आणि तक्रारदाराला/खबरीला खबरीची प्रत मोफत दिली.)

R.O.A.C.(आर. ओ .ए .सी.)

14 **Signature/Thumb impression of the complainant / informant.**
(तक्रारदाराची/खबर देणा-याची सही/अंगठा):

15. **Date and time of dispatch to the court**
(न्यायालयात पाठवल्याची तारीख व वेळ):

पोलीस स्टेशन ऑफिसर
उल्हासनगर पोलीस ठाणे

Signature of Officer in charge, Police Station
(ठाणे प्रभारी अधिका-याची स्वाक्षरी)

Name (नाव): SANGRAM Atmaram
Rank(पद): I (Inspector)
No.(सं.): 16101000450SASM800

MAHARASHTRA POLLUTION CONTROL BOARD
REGIONAL OFFICE, KOLHAPUR.

Tel. No. (0231) 2652952, 2660448 Fax No. (0231) 2652952. E-mail: rokolhapur@mpcb.gov.in	"Your Service is Our Duty"	Udyog Bhavan, Near Collector Office, Kolhapur - 416 003. Website: http://mpcb.mah.nic.in

No. MPCB/RO/KOP/Direction/FTS-0277 **Date: 22/11/2024**

To,
M/s. Manmar Industries,
Plot No. A-53, MIDC Shalgaon,
Tal. Kadegaon, Dist. Sangli.

Sub: Direction to dispose Hazardous Waste generated due to blast u/s 33A of Water (Prevention & Control of Pollution) Act, 1974, 31 A of Air (Prevention & Control of Pollution) Act, 1981 and under the Hazardous Waste (M & TM) Rules, 2016 as amended.

Ref: 1. Complaint received from Shri Vijay Mulik, Deputy Sarpanh, Shalgaon on 21.11.2024.
2. Visit of Board Officials 21.11.2024.
3. Legal Action Proposal submitted by SRO Sangli vide no. MPCB-LEGAL_ACTIONS- 221124005 on 22.11.2024.
4. Closure Direction issued on 22.11.2024.

.....

WHEREAS you are operating your industry in 'Pollution Prevention Area' declared under Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981 & Hazardous Waste (M & TM) Rules, 2016 as amended.

AND WHEREAS, this office has issued Closure Direction vide above reference 4 u/s 33A of Water (Prevention & Control of Pollution) Act, 1974, 31 A of Air (Prevention & Control of Pollution) Act, 1981 and under the Hazardous Waste (M & TM) Rules, 2016 as amended.

NOW THEREFORE, in continuation to that you are hereby directed to dispose all hazardous waste & waste generated due to blast in scientific manner with all safety measures at designated common hazardous waste disposal site immediately as well as you are directed to submit the report as per the Hazardous Waste (M & TM) Rules, 2016 to this office.

(J. S. Hajare)
Regional Officer, Kolhapur

Copy submitted for favour of information to:
1. The Member Secretary, M.P.C. Board, Mumbai.
2. Joint Director (APC), M.P.C. Board, Mumbai.

Copy for information:
Law Officer, M.P.C. Board, Mumbai.

Copy to:
Sub-Regional Officer, M.P.C. Board, Sangli.

- He is directed to take necessary follow-up that all existing hazardous waste generated due to blast should be disposed at hazardous waste site & report it accordingly.

Outlook

RE: Regarding Disposal of Hazardous Material from Manmar Industries Sangli

From Somnath Malgar <smalgar@resustainability.com>
Date Wed 12/18/2024 5:53 PM
To SRO Sangli <srosangli@mpcb.gov.in>
Cc RO Kolhapur <rokolhapur@mpcb.gov.in>; Dr. V. M. Motghare <jdair@mpcb.gov.in>; Onkar Kulkarni <onkar.kulkarni@resustainability.com>; Julekha Javed Mansuri <julekha.mansuri@resustainability.com>

1 attachment (3 MB)
Hzw Dispsoal Sangli SRO.pdf;

Dear Sir,

This is with reference to the trailing email and our site visit on 17th December 2024, where we conducted treatment trials at the incident site. Based on these trials, we are submitting our offer and timeline for the treatment of hazardous chemicals at the site, followed by their transportation and final disposal at MWML Taloja.

We kindly request your acceptance of the proposed rates and clearance to proceed with the safe handling, treatment, and disposal of the hazardous chemicals.
Looking forward to your approval.

Regards,

Somnath Malgar
Head MWML

re Sustainability | 30 YEARS CELEBRATING 30 years of Planet Positive Impact

Mumbai Waste Management Limited | Plot no. P-32 and Part P-32 | MIDC Taloja | Taluka Panvel | District Raigad | Navi Mumbai 410208 | Maharashtra | India | Office Tel: 7304992789/ 90, 8422877165 | M: +919324627400 | E-mail smalgar@resustainability.com | www.mumbaiwastemanagment.com | resustainability.com

From: SRO Sangli <srosangli@mpcb.gov.in>
Sent: 16 December 2024 20:32
To: Somnath Malgar <smalgar@resustainability.com>
Cc: RO Kolhapur <rokolhapur@mpcb.gov.in>; Dr. V. M. Motghare <jdair@mpcb.gov.in>
Subject: Fw: Regarding Disposal of Hazardous Material from Manmar Industries Sangli

Sir,

DIRECTORATE OF INDUSTRIAL SAFETY & HEALTH

महाराष्ट्र शासन

(कामगार विभाग)

औद्योगिक सुरक्षा व आरोग्य संचालनालय

स.नं. ३००/२, उद्योगभवन, विश्रामबाग, सांगली४१६४१५

दुरध्वनीनं. ०२३३ २६७२३५९ Email. - dydish.san-mh@gov.in

क्र.उसंऔसुवआसां/अपघात/ 1174-1177/२०२४ दिनांक:- 02./12 /२०२४

E 2 DEC 2024

0224

12 02

प्रति,

वि. वि.किल्लेदार

उप प्रादेशिक अधिकारी,

महाराष्ट्र प्रदुषण नियंत्रक मंडळ,

उदयोगभवन, सांगली.

विषय :- फॅक्टरीमधील असलेल्या धोकादायक रसायन केमिकलची तात्काळ विल्हेवाट लावणेबाबत.

संदर्भ :- आपले जा क्र. उप्राकासां/ तांशा/२४११२८-FTS-०२१५ , दि २८/११/२०२४ रोजीचे या कार्यालयास प्राप्त पत्र

महोदय,

उपरोक्त संदर्भिय पत्र या कार्यालयास दिनांक २८/११/२०२४ रोजी प्राप्त झाले . दिनांक २१/११/२०२४ रोजी म्यानमार इंडस्ट्रीज या कारखान्यात रिॲक्टरवरील कंन्डेसर फुटुन कारखान्यात व आसपासच्या परिसरात वायुगळती झाली. सदर अपघाताची या कार्यालयामार्फत सविस्त्र चौकशी सुरु असून चौकशी दरम्यान नोंदविणेत आलेल्या जबाबानुसार कारखान्यातील रिॲक्टरवरील कंन्डेसर फुटुन सदर अपघात झालेला आहे. त्या रिॲक्टर मधील रसायनाचा नमुना खाजगी प्रयोगशाळेतुन तपासला असता त्यामध्ये DCAC- Dichloro Acetyl Choride, DCA- Dichloro Accetic Acid असलेचे आढळुन आले आहे. सदर रिॲक्टरमध्ये अंदाजे २ टन ऐवढे मटरिअल असुन सदर मटेरिअल हे Hazardous Waste आहे असे कार्यालयाचे मत आहे.

उपरोक्त मटेरिअल हे Hazardous असलेमुळे त्याचे सॅम्पल आले स्तरावर Analysis करुन त्यातील घटक आपल्या आखत्यारित्यातील शासकीय मान्यता प्राप्त Laboratory व्दारे प्रमाणित करुन घेणे आवश्यक आहे . सदर मटेरिअल हे Hazardous Waste असलेमुळे Hazardous and other Wastes (Management and Transboundary Movement) Rule , २०१६ च्या Chapter V अन्वये योग्य ती कार्यवाही आपले स्तरावर करुन त्याचा अहवाल मा.जिल्हाधिकारी ,सांगली, मा. पोलीस अधिक्षक ,सांगली तसेच या कार्यालयास देण्यात यावा हि विनंती.

आपला विश्वासू,

Bondare

(प्रे. अ.बोंदर)

सहाय्यक संचालक

औद्योगिक सुरक्षा व आरोग्य,सांगली

श्री. कुमार त्रयीत अधिकारी 2/12

प्रत :- १.मा जिल्हाधिकारी, सांगली यांना सविनय सादर.

२. मा.पोलास अधिक्षक ,सांगली यांना सविनय सादर.

३. मा.उपप्रादेशिक अधिकारी , महाराष्ट्र औदयोगिक विकास महामंडळ,सांगली यांना सविनय सादर.

MAHARASHTRA POLLUTION CONTROL BOARD
REGIONAL OFFICE, KOLHAPUR.

Tel. No. (0231) 2652952, 2660448 Fax No. (0231) 2652952. E-mail: rokolhapur@mpcb.gov.in	"Your Service is Our Duty"	Udyog Bhavan, Near Collector Office, Kolhapur - 416 003. Website:http://mpcb.mah.nic.in

MPCB/ROKP/PD/ 0001 Date: 06/12/2024

To,
M/S. Shree Vitthal Chemicals
Shalgaon Bombalewadi,
Tal. Kadegaon,
Dist. Sangli

Sub: Proposed Directions under section 33 A of Water (Prevention & Control of Pollution) Act, 1974.

Ref:
1. Hon'ble District Collector, Sangli has constituted Joint Committee under Chairmanship of Regional officer, MIDC, Sangli vide letter dtd. 23-11-2024.
2. The complaint received from Shalgaon, Grampanchyat during the investigation.
3. Joint Committee visit on 29.11.2024.
4. Legal Action Proposal submitted by SRO Kolhapur vide no. MPCB-LEGAL_ACTIONS-021224019 on 05.12.2024.

.....

WHEREAS, the Maharashtra Pollution Control Board has granted Consent to Operate u/s 26 of the Water (Prevention and Control of Pollution) Act, 1974 and u/s 21 of the Air (Prevention and Control of Pollution) Act, 1981 & Authorization under Rule 6 of the Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016.

AND WHEREAS, it is obligatory on the part of industry to provide & operate adequate pollution control devices so as not to cause any sort of pollution problem in the surrounding area and to achieve consented standards.

AND WHEREAS, the Hon'ble District Collector, Sangli has constituted Joint Committee under Chairmanship of Regional officer MIDC and Assistant Director, DISH is a Member Secretary of Committee & MPCB, Tahsildar Kadegaon, Police Officer Kadegaon , Labour Officer, Sangli and Sarpanch etc vide reference no 01. **AND WHEREAS**, the Joint committee has visited to the industry on 29-11-2024 and also complaint received during the investigation from Shalgaon Grampnchyat. **AND WHEREAS**, SRO Sangli has submitted proposal for legal action against the industry due to following non-compliances:-

1. The Multi effect evaporator is not provided.
2. The OCEMS system to ETP outlet is not provided as per the consent condition.

3. Industry has not provided IP cameras & flow meter as per consent conditions.
4. Traces of effluent observed outside industry premises which indicates contamination of nalla water due to industrial effluent and also during the investigation the sample collected from MIDC nalla south side the analysis results showing parameters of BOD-120mg/l & COD- 496 mg/l.
5. You have provided bore well in the industry premises without MIDC & CGWA permission.
6. Industry has not submitted Bank guarantee of Rs. 1.0 lacs towards compliance of Environment Clearance & consent conditions & Bank guarantee of Rs. 1.0 lacs towards installation of OCEMS systems.

AND WHEREAS, it is noticed that the industry has failed to comply with the consent conditions & violating the provisions of various environmental enactments knowingly & wilfully.

NOW THEREFORE, in view of the above non-compliance, you are hereby directed to show cause as to:

1. Why your industrial activities shall not be closed down?
2. Why the competent Authorities shall not be directed to disconnect water/ electricity supply to your unit?

You are hereby given an opportunity to respond within 7 days from issuance of these directions, failing which, MPCB will initiate legal action against your unit without giving any further notice in accordance with the provisions of the Water (prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1981, which may be noted.

4/2021

(J. S. Hajare)
Regional Officer, Kolhapur

Copy submitted to:- Joint Director (APC), M. P. C. Board, Mumbai.

Copy to:- Sub-Regional Officer, M.P.C. Board, Kolhapur - It is directed to serve the said notice to the industry & report the compliance accordingly.

MAHARASHTRA POLLUTION CONTROL BOARD
REGIONAL OFFICE, KOLHAPUR.

Tel. No. (0231) 2652952, 2660448 Fax No. (0231) 2652952. E-mail: rokolhapur@mpcb.gov.in	"Your Service is Our Duty"	Udyog Bhavan, Near Collector Office, Kolhapur - 416 003. Website: http://mpcb.mah.nic.in

No. MPCB/RO/KOP/CD/ PTS-0110 Date: 22/11/2024.

To,
M/s. Manmar Industries,
Plot No. A-53, MIDC Shalgaon,
Tal. Kadegaon, Dist. Sangli.

Sub: Closure Direction u/s 33A of Water (Prevention & Control of Pollution) Act, 1974, 31 A of Air (Prevention & Control of Pollution) Act, 1981 and under the Hazardous Waste (M & TM) Rules, 2016 as amended.

Ref: 1. Complaint received from Shri Vijay Mulik, Deputy Sarpanh, Shalgaon on 21.11.2024.
2. Visit of Board Officials 21.11.2024.
3. Legal Action Proposal submitted by SRO Sangli vide no. MPCB-LEGAL_ACTIONS- 221124005 on 22.11.2024.

.....

WHEREAS you are operating your industry in 'Pollution Prevention Area' declared under Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981 & Hazardous Waste (M & TM) Rules, 2016 as amended.

AND WHEREAS, it is mandatory on the part of industry to obtain Consent to Establish/Operate from the Maharashtra Pollution Control Board under u/s 25/26 of the Water (Prevention and Control of Pollution) Act, 1974 and u/s 21 of the Air (Prevention and Control of Pollution) Act, 1981 & Authorization under Rule 6 of the Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016.

AND WHEREAS, it is also mandatory on your part to provide adequate water and air pollution control devices, so as to prevent any sort of pollution in the surrounding area and to achieve the standards laid down under the provision of Environment (Protection) Act 1986.

AND WHEREAS, the Board office is in receipt of complaint as referred above 1 & the Board officer visited the unit on 21.11.2024 for investigation of said complaint as referred above 2. **AND WHEREAS**, SRO Sangli has submitted proposal for legal action against the industry due to following non-compliances:-

1. You have operating your industry without obtaining Consent to Establish & Operate from the Board.
2. During the manufacturing process Trichloro Ethylene was released due to blast in your plant causing damage to environment because of emissions.
3. You are operating your unit without provision of any air pollution control equipment & safety measures.
4. On 21.11.2024 due to blast in your plant 11 persons are injured & out of those two persons are passed away.

AND WHEREAS after examining the record of your case, reports of officers of the Board & making necessary enquiries, I am satisfied that you are causing Environmental Pollution problems in the surrounding area and knowingly & wilfully causing grave injury to the environment thereby violating various Environment enactments.

NOW, THEREFORE in exercise of the powers conferred upon me under Section 33A of the Water (Prevention & Control of Pollution) Act, 1974 & 31A of the Air (Prevention & Control of Pollution) Act, 1981, I, J.S. Hajare, Regional Officer of the Board at Kolhapur hereby direct you to stop the manufacturing activity forthwith by taking all safety measures to avoid further damage to the surrounding environment and inform the same to this office immediately. The competent authorities are directed to disconnect the water/electricity supply to your unit immediately, which may please be noted.

(J. S. Hajare)
Regional Officer, Kolhapur

Copy for information & necessary action:-

1. **The Superintending Engineer, MSEDCL Ltd. Sangli, Dist. Sangli.**
2. **The Executive Engineer/Dy. Engineer, MSEDCL Ltd., Kadegaon Division, Tal. Kadegaon, Dist. Sangli.**
   -They are directed to disconnect electricity supply of aforesaid unit immediately till further orders and report the compliance accordingly.
3. **The Executive Engineer/Dy. Engineer, MIDC Shalgaon, Tal. Kadegaon, Dist. Sangli.**
   -They are directed to disconnect Water supply of aforesaid unit immediately till further orders and report the compliance accordingly

(J. S. Hajare)
Regional Officer, Kolhapur

Copy submitted for favour of information to:

1. The Member Secretary, M.P.C. Board, Mumbai.
2. Joint Director (APC), M.P.C. Board, Mumbai.

Copy for information:

Law Officer, M.P.C. Board, Mumbai.

Copy to:

Sub-Regional Officer, M.P.C. Board, Sangli.

- He is directed to serve the direction to the unit and The Executive Engineer/Dy. Engineer, Kadegaon Division MSEDCL Ltd, Dist. Sangli and The Executive Engineer/Dy. Engineer, MIDC Shalgaon, Tal. Kadegaon, Dist. Sangli and keep vigilance and report the compliance accordingly.

M/s. Manmar Industries, plot no. A-53, MIDC Shalgaon, Tal. Kadegaon, Dist Sangli.

With reference to complaint received from Shri Vijay Mulik, Deputy Sarpanh, Shalgaon regarding blast occurred on 21.11.2024 at M/s. Manmar Industries, plot no. A -53, MIDC Shalgaon, Tal. Kadegaon, Dist Sangli. Accordingly Board officials visited to the unit on same day. Industry was engaged in manufacturing of water soluble fertilizers as informed by industry authority by telephonically. As informed by Industry representative, during the manufacturing process Trichloro Ethylene released due to blast and 11 nos workers were injured out of which 03 nos. workers were died at hospital afterward.

In view of above Board has issued Closure Direction & Direction for disposal of Waste arising due to accident to CHWTSDF vide Dated. 22.11.2024. (Copy enclosed)

Also this office has filed FIR against Nandkumar Jagannath Nalawade & Mandar Nandkumar Nalawade on 22.11.2024. (Copy enclosed)

From the office record it is observed that industry has submitted online undertaking about industry being under white Category for manufacturing of PGR, Micro nutrient -3000 Ton/M, Protein Hydrolyse -3000 Ton/M on 26/12/2021. (Copy enclosed)

In this regard Hon'ble District Collector, Sangli has constituted Joint Committee under Chairmanship of Regional officer MIDC and Assistant Director, DISH is a Member Secretary of Committee & MPCB, Tahsildar, Police, Labour Officer and Sarpanch of nearby villagers with one representative of each village are the Member of Joint Committee. And directed to visit other 3 Chemical industries in Shalgaon MIDC. (Copy enclosed)

Accordingly Joint Committee visited M/s. Green Gene Enviro Protection and Infrastructure Pvt.Ltd , Plot No. B-18, MIDC Shalgaon , M/s. Shree Vitthal Chemicals, Plot no.A-7 & A-7/1 MIDC Shalgaon & M/s. Sahyadri Industries Plot no. C-85 MIDC Shalgaon , on 29.11.2024. On the basis of non compliance Board office has issued Proposed direction to M/s. Green Gene Enviro Protection and Infrastructure Pvt.Ltd & M/s. Shree Vitthal Chemicals vide dated 06.12.2024 (Copy enclosed). Proposal of M/s. Sahyadri Industries is submitted to Head Office, Sion.

Hon’ble District Collector has instructed to this office to dispose the waste arising due to accident in the premises of M/s. Manmar Industries, plot no. A-53, MIDC Shalgaon, Tal. Kadegaon, Dist Sangli so as to avoid any harm to environment and nearby residence.
Assistant Director DISH, Sangli has collected and analysed the samples of chemicals present in reactor from private lab and informed that the said chemical is DCAC-Dichloro Acetyl Chloride, DCA-Dicholoro Acetic Acid and the quantity is about 2 Tones and requested to analyse the sample from CHWTSDF Laboratory for safe and scientific disposal of the same vide dated 02.12.2024. (Copy enclosed)
As per the instructions of Higher Authority this office has requested M/s. Maharashtra Enviro Power Ltd. (MEPL) Ranjangaon Pune for taking samples to decide scientific disposal path. Accordingly a team from MEPL has visited the said industry on 03.12.204 and collected Samples from reactors in the Factory.

MEPL vide dated mail submitted analysis results of the said samples and informed that the said samples are Strong Acidic in nature and Highly reactive with Moisture & Air. Also informed that Based on the characteristics of hazardous chemicals (on Primafecia it seems to be Dichloro Acetyl Chloride), also informed that the Handling of hazardous chemicals like this may poses several risks and health hazard like—reactivity, toxicity, volatility, and fire hazards. (Note: Reactivity: Highly reactive with water, releasing hydrochloric acid and potentially toxic fumes. Toxicity: Causes severe burns to skin, eyes, and respiratory tract on contact. Volatility: Emits toxic vapours that can irritate the respiratory system.)

Regional officer, Kolhapur has issued direction to the Maharashtra Enviro Power Ltd, MIDC Ranjangaon vide dtd. 09.12.2024 regarding disposal of Hazardous waste from M/s. Manmar Industries , Plot no. A-53, MIDC Shalgaon,Tal. Kadegaon, Dist.Sangli. (Copy enclosed)
Accordingly Maharashtra Enviro Power Ltd, has submitted their reply dated 13.12.2024 mentioned that, chemical is highly toxic nature of chemical compound and its reactive nature , the risk associated with its transportation was addressed and concluded that MEPL is unable to accept this material for transportation as well as disposal.

After that as per instructions given by Joint Director (APC), MPCB Mumbai and Member Secretary Sir regarding disposal of Hazardous chemicals/Material lying in the premises of M/s. Manmar Industries, Plot No. A-53, MIDC Shalgaon, Tal. Kadegaon, Dist. Sangli. This office has contacted to Mumbai Waste Management Ltd & requested them to collect, analyze of sample , pretreatment and disposal of waste arising due to accident in accordance with Hazardous and Other Wastes (Management, Handling and Transboundary Movement) Rules 2016.

Accordingly Mumbai waste management Expert team visited to the site on 16.12.2024 and collected samples of Chemicals/material present in the said premises and assure that will pretreat the said material and transport and dispose the same at CHWTSD facility Mumbai. Mumbai waste management has given proposal for disposal of Hazardous chemicals & same is submitted for approval to higher authority of the Board. It is under consideration.

April 28, 1970 G. W. GAERTNER, JR., ET AL 3,509,210

PREPARATION OF DICHLOROACETYL CHLORIDE

Filed Oct. 9, 1968

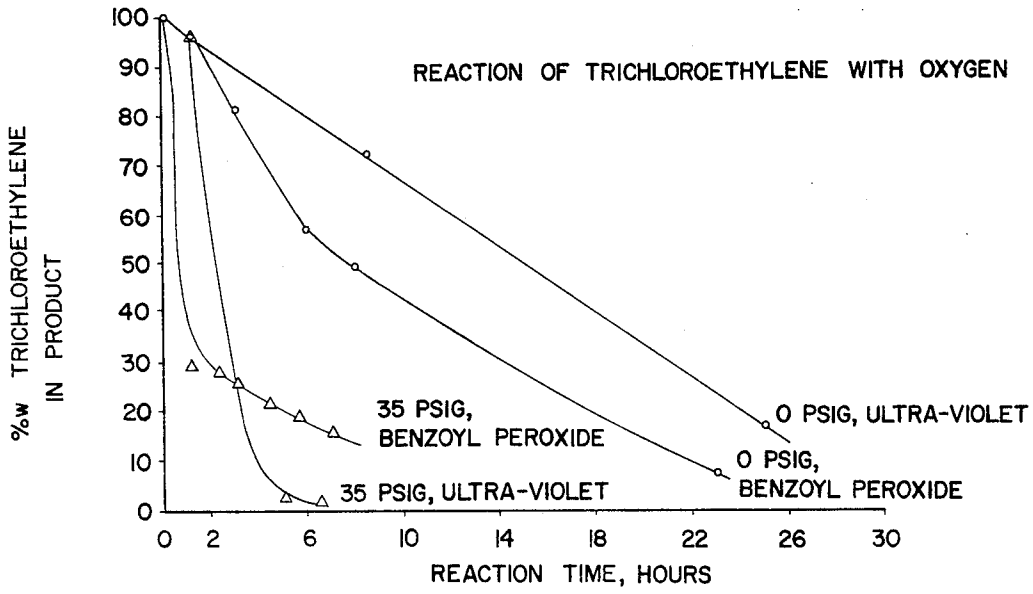


FIG. 1

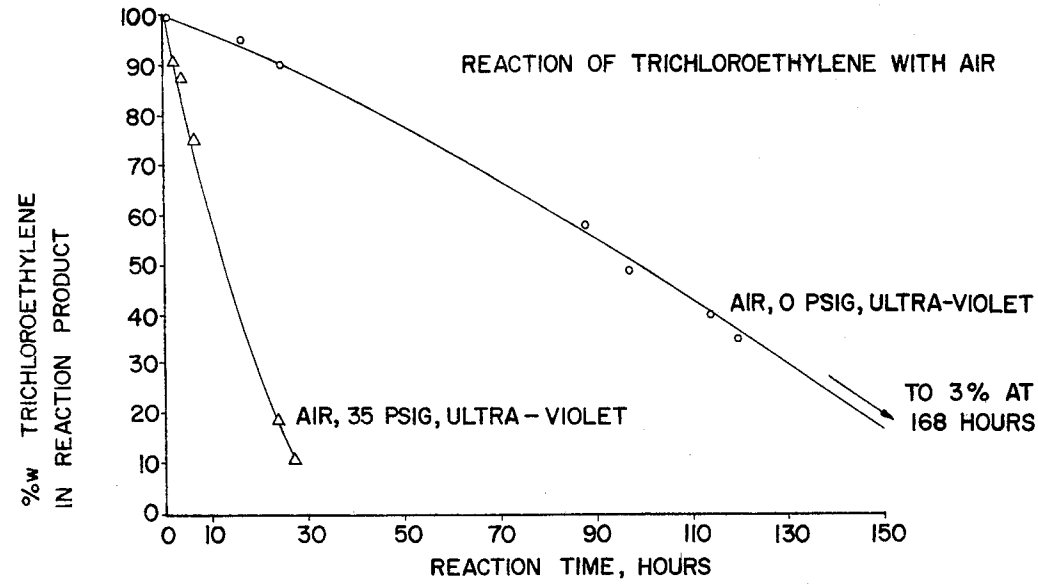


FIG. 2

INVENTORS:
GEORGE W. GAERTNER, JR.
DAVID E. RAMEY
BY: René D. Gaertner
THEIR ATTORNEY

United States Patent Office 3,509,210
Patented Apr. 28, 1970

3,509,210

PREPARATION OF DICHLOROACETYL CHLORIDE

George W. Gaertner, Jr., and David E. Ramey, Modesto, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Continuation-in-part of application Ser. No. 457,607, May 21, 1965. This application Oct. 9, 1968, Ser. No. 772,451
Int. Cl. C07c *53/14*; B01j *1/10*
U.S. Cl. 260—544 8 Claims

ABSTRACT OF THE DISCLOSURE

Dichloroacetyl chloride is prepared by oxidizing trichloroethylene with an oxygen-containing gas at elevated temperatures in the presence of a free-radical generating means either at superatmospheric pressures or at atmospheric to superatmospheric pressures in the presence of a secondary or tertiary amine.

This application is a continuation-in-part of copending application Ser. No. 457,607, filed May 21, 1965. now abandoned.

BACKGROUND OF THE INVENTION

Field of the invention

This invention relates to synthesizing dichloroacetyl chloride by the oxidation of trichloroethylene.

Description of the prior art

Dichloroacetyl chloride is an important reactant in the synthesis of many compounds of commerce. It is a particularly attractive reactant for preparing haloacetophenones which are precursors to many commercial pesticides. Examples of insecticides prepared from haloacetophenones using dichloroacetyl chloride as a starting material are described in U.S. 2,956,073 and U.S. 3,102,842.

However, the use of dichloroacetyl chloride for preparing these insecticides has not been commercially attractive due to the high cost and limited availability of dichloroacetyl chloride.

The oxidation of trichloroethylene to dichloroacetyl chloride is well known in the art. For example, U.S. 1,976,265, U.S. 2,292,129 and L. L. McKinney et al., Ag. and Food Chem. 3, 413 (1955) disclose such processes, but these methods have the disadvantages of long reaction times and a large loss of desired yield to side products.

In particular, the above art processes yield dichloroacetyl chloride and trichloroethylene oxide in near equal amounts, as well as smaller amounts of hexachlorobutylene, phosgene, carbon monoxide, hydrogen chloride, trichloroethylene polymers and other products of undetermined constitution. The presence of trichloroethylene oxide is especially undesirable due to its unstable properties. The formation of these side products in substantial amounts results in a corresponding loss of yield of dichloroacetyl chloride. In addition, the desired product must be separated from these other products by costly fractionation which also results in substantial loss of yield.

Further, U.S. 1,976,265, U.S. 2,292,129 and the McKinney et al. article teach that after the oxidation of the trichloroethylene, the trichloroethylene oxide formed can be converted to dichloroacetyl chloride by the use of secondary and tertiary amines. This art specifically teaches that in the initial oxidation step, the trichloroethylene should be free of secondary and tertiary amines

as it is well known that such amines stabilize chlorinated hydrocarbons, such as trichloroethylene, against oxidation.

Also, the two-step process of the art which involves oxidation and then reacting the product with an amine to isomerize the trichloroethylene oxide is commercially undesirable due to the expense of the additional equipment and processing needed for the two steps. Further, the isomerization of the oxide is a highly exothermic reaction which is difficult to properly control.

Accordingly, it would be highly desirable for commercial purposes to decrease the long reaction time of the prior art processes for oxidizing trichloroethylene to dichloroacetyl chloride and at the same time improve the yields. It would be even more desirable to find a one-step process for the oxidation of trichloroethylene to pure dichloroacetyl chloride in high yield in a short reaction time, with only negligible amounts of trichloroethylene oxide, phosgene and other undesirable side products being formed.

SUMMARY OF THE INVENTION

It is an object of this invention to provide an improvement in the oxidation of trichloroethylene to dichloroacetyl chloride. It is a further object of this invention to provide an efficient and economical one-step process for selectively converting trichloroethylene to dichloroacetyl chloride in high yields. Another object of the invention is to provide a process for the selective oxidation of trichloroethylene to dichloroacetyl chloride in high yield using reaction conditions and catalyst which minimize the reaction time and result in a negligible yield of undesired byproducts. Yet another object of the invention is to provide a commercial process for the oxidation of dichloroacetyl chloride in high yield in a manner free from explosion or fire hazards. Further objects of the invention will be apparent to one skilled in the art.

These and other objects are accomplished by selectively oxidizing trichloroethylene with a gas containing oxygen at elevated temperatures in the presence of a free-radical generating means.

One aspect of the invention involves using superatmospheric pressure which greatly reduces the reaction times while still producing high conversions of the trichloroethylene.

Another aspect of the invention involves carrying out the reaction in the presence of a secondary or tertiary amine which results in a one-step process for producing high yields of substantially pure dichloroacetyl chloride with negligible amounts of the undesirable side-products found in the prior art processes. This aspect is indeed surprising in view of the prior art teachings that these amines should not be present during the oxidation reaction. Atmospheric or superatmospheric pressures are suitable in this aspect of the invention.

These and other aspects of the process will become clear in the following discussion of the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The invention is carried out by reacting trichloroethylene in liquid phase with a gas containing molecular oxygen at elevated temperatures in the presence of the catalysts and under the conditions mentioned above. The gas may be pure oxygen, air, oxygen enriched air, or any inert gas which contains substantial amounts of molecular oxygen.

The gas may be made to contact the liquid by any method known to the art. For example, the gas may be forced under pressure through a fritted glass sparger. The reaction stoichiometry indicates that only 0.12

pound of oxygen is required per pound of trichloroethylene. In order to insure complete oxidation it is advantageous to use an excess over the stoichiometric amounts of oxygen. Quantities of over 100% by weight excess of oxygen over trichloroethylene may be employed without adverse effects upon yield.

However, when using superatmospheric pressures in the reaction of the invention, it is desirable to use air or any other inert gas containing molecular oxygen rather than pure oxygen. The reaction rate is considerably reduced, but the hazards of explosion and fire are also greatly reduced. Also, air is the most economical oxygen-containing gas available. The feed rate of the gas containing oxygen is preferably such that about 0.1 mole of oxygen per hour to 0.6 mole of oxygen per hour per mole of trichloroethylene present is introduced into the reaction.

The selective oxidation of trichloroethylene by the process of the invention is carried out with the aid of a free-radical generating means. Any of the free-radical generators known in the art are suitable. These include the various forms of electromagnetic radiation such as ultra-violet actinic light or chemical free-radical generators.

By ultra-violet light is meant that electromagnetic radiation having a wavelength or wavelengths between about 4000 angstroms and about 400 angstroms. However, in general, this radiation is produced artificially by sources such as the mercury arc lamps, the hydrogen arc lamps and the zirconium arc lamps, which in addition to a mixture of wavelengths of ultraviolet radiation emit light in the visible region, and have a typical spectrum ranging from 3800–7600 A. The intensity of such light in the process of the invention will, of course, depend not only on the composition of the indicated system but also on the nature, configuration and disposition of the light source and of the reaction vessel. However, a minimum intensity of sufficient energy to initiate the process of the invention is, of course, required.

Suitable chemical free-radical generators include the organic peroxides, certain cobaltous salts and the azo compounds.

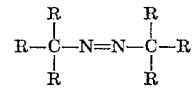
The suitable organic peroxides (including hydrogen peroxide) may be defined by the formula R—O—O—R wherein R and R′ are hydrogen or organic radicals. These include the hydroperoxides, R is hydrogen and R′ is alkyl, cycloalkyl, cycloalkenyl, alkaryl, aralkyl and heterocyclic of up to 12 carbon atoms; the dialkyl peroxides, R and R′ are each alkyl of up to 12 carbon atoms; the diaralkyl peroxides, R and R′ are each aralkyl of up to 20 carbon atoms; the aliphatic peroxy acids, R is hydrogen and R′ is alkanoyl or aroyl up to 12 carbon atoms; the peroxy esters of said peroxy acids, R is alkyl or aryl of up to 12 carbon atoms and R′ is alkanoyl or aroyl of up to 12 carbon atoms; the diacyl peroxides, R and R′ each are alkanoyl of up to 12 carbon atoms; the diaroyl peroxides, R and R′ each are aroyl of up to 12 carbon atoms as well as the dialkyl peroxy-dicarbonates, 1-hydroxyalkyl hydroperoxides, bis(1-hydroxyalkyl)peroxides, polyalkylidene peroxides, alkyl 1-hydroalkyl peroxides, peroxy acetals and the like. Examples of these and other suitable peroxides are described in "Organic Peroxides," Interscience Publishers, Inc., New York (1945) by A. V. Tobalsky et al. on pages 157–176.

Preferred organic peroxides are those wherein R and R′ are hydrogen, alkyl of 1–4 carbon atoms, aralkyl of up to 12 carbon atoms, alkanoyl of up to 12 carbon atoms or aroyl of up to 12 carbon atoms.

These include such species as the methyl, ethyl, propyl, n-butyl, t-butyl, α-methylbenzyl, α,α-dimethylbenzyl, and α-p-xylyl hydroperoxides; peropyacetic acid, peroxycaproic acid, peroxylauric acid, peroxybenzoic acid, p-ethylperoxybenzoic acid; the dimethyl, diethyl and dibutyl peroxides; di-α-cumyl peroxide, diacetyl peroxide, di-n-butyryl peroxide, dilauroyl peroxide, dibenzoyl perxoide, bis-(3,4-dimethylbenzoyl)peroxide and the like. Dibenzoyl peroxide and t-butyl hydroperoxide have been found to be especially suitable organic peroxides for the process of the invention.

Suitable cobaltous salt initiators are those that are soluble in trichloroethylene and include such species as cobaltous hexamine naphthalene β-sulfonate, cobaltous hexamine picrate and the various cobaltous alkylated-naphthalenesulfonates. Especially preferred from this group are cobaltous methyl naphthalenesulfonate and cobaltous ethyl naphthalenesulfonate.

The azo compounds, which are the preferred initiators of the invention, may be described by the formula



wherein at least one and preferably both carbons attatched to the azo group, —N=N—, are tertiary, and wherein R is a radical chosen from the group of H, —CN,

$$—R'CONH_2$$

wherein R′ is alkylene of up to 6 carbon atoms, carbalkoxy radicals of up to 5 carbon atoms, and alkyl of 1 to 6 carbon atoms.

The more preferred azo catalysts have both valences of the azo group, —N=N—, attached to different tertiary carbons further bonded to at least one of the negative groups —CN, —$CONH_2$, and a carbalkoxy radical of 2 to 7 carbons, with the remaining valences bonded to CH_3, as these are the most active azo compounds within the preferred temperature range of the invention of about 60° to 150° C.

Examples of such azo compounds wherein R may be —CN, hydrogen and alkyl are

alpha,alpha′-azobisisobutyronitrile,
alpha,alpha′-azobis(alpha-enanthonitrile),
alpha,alpha′-azobis(alpha-methyleneanthonitrile),
alpha,alpha′-azobis(alpha,gamma-dimethylvaleronitrile),
alpha,alpha′-azobis(alpha-ethylbutyronitrile),
azobis(alpha-methylbutyronitrile),
alpha,alpha′-azo-dicyclohexanecarbonitrile, and
alpha,alpha′-azobis-(alpha,alpha′-cyclopropylpropionitrile).

Examples of the azo compounds wherein R may be carbalkoxy of 1 to 7 carbon atoms, hydrogen, and alkyl of 1 to 6 carbon atoms are

methyl alpha,alpha′-azodiisobutyrate,
alpha,alpha′-azobis(alpha,gamma-dimethylvalerate),
ethyl alpha,alpha′-azodiisobutyrate and
hexyl alpha,alpha′-azodiisobutyrate.

Examples of azo compounds wherein R may be hydrogen and R′$CONH_2$ wherein R′ is up to 5 carbon atoms are

alpha,alpha′-azodiisobutyramide, and
alpha,alpha′-azobis(alpha,gamma-dimethyl caproamide).

Due to the relative low cost, commercial availability, and usefulness in the process of the invention, the most preferred azo compound is alpha,alpha′-azobisisobutyronitrile (hereinafter referred to as ABIN).

The initiator is added to the reaction in catalytic amounts as needed. Generally, the range of initiator will be from about 0.001–1.0 percent based on the weight of the trichloroethylene, although the optimum amount is somewhat dependent upon the type of initiator and reaction conditions. For example, the preferred amount for the azo initiators is about 0.01–0.1 percent on the same weight basis.

A satisfactory temperature range for the process of the invention is from about 50° C. to 250° C. The optimum range is, of course, influenced by the type of initiator used

and the other reaction variables. For example, the preferred range for the azo initiators is from about 60° C. to about 150° C. while for the other free-radical generators, temperatures of 65° C. to 200° C. are more generally satisfactory with 75° C. to 110° C. being preferred.

When the process of the invention is carried out at elevated temperatures and at superatomspheric pressures in the absence of the secondary of tertiary amines, pressures of from 2 up to 20 atmospheres are suitably employed, preferably, pressures of 3 to 10 atmospheres are employed. The use of these superatmospheric pressures surprisingly results in trichloroethylene being selectively oxidized in high yields in relative short reaction times to dichloroacetyl chloride. This is a decided improvement over the long reaction times and relatively low yields of dichloroacetyl chloride produced by the prior art methods.

In the preferred aspect of the invention wherein an amine is present during the oxidation, atmospheric or superatmospheric pressure may be employed. Suitable pressures range from 1 to 100 atmospheres with pressures of 2 to 20 atmospheres being preferred. Especially preferred are pressures of 3 to 12 atmospheres.

The secondary and tertiary amines used in the preferred aspect of this invenion are alkyl amines and cyclic amines of up to 12 carbon atoms such as:

dimethylamine,
diethylamine,
dihexylamine,
pyridine,
picoline,
piperidine, and the like.

Also useful in the invention are tertiary aryl amines of up to 14 carbon atoms such as

N,N-dimethylaniline,
N,N-dipropylaniline,
N-methyl-N-ethylaniline,
N,N-dibutylaniline, and the like.

The present invention preferably utilizes tertiary alkyl amines of up to 18 carbon atoms, especially up to 12 carbon atoms, such as

trimethylamine,
triethylamine,
tributylamine,
trihexylamine,
tri-n-propylamine, and the like.

Further examples of such amines will be obvious to those skilled in the art.

The amine may be added to the reaction in quantities of between about 30 parts per million to 1000 parts per million by weight based on the reaction mixture present. The preferred concentration of amine is between about 80 to 150 parts per million, with about 100 parts per million being especially preferred. As triethylamine is inexpensive and easy to obtain, it is the preferred amine of the invention.

The particular advantage of using superatmospheric pressures can best be appreciated by reference to the accompanying drawings which shows two graphs comparing the rates of conversion of trichloroethylene to dichloroacetyl chloride under atmospheric conditions and at 35 p.s.i.g.

FIGURE 1 compares the reaction rates of the conversion of trichloroethylene with oxygen without pressure and at 35 p.s.i.g., while FIGURE 2 compares the conversion with air at 0 p.s.i.g. and at 35 p.s.i.g. It is apparent from the results presented graphically in FIGURES 1 and 2 that the conversion of trichloroethylene at a pressure of 35 p.s.i.g. proceeds at a markedly more rapid rate when either air or oxygen is used as the oxidizing agent than at atmospheric pressure under the same conditions. This is the case when either ultra-violet light or benzoyl peroxide is used as the free-radical initiator. The accelerated rate of the reaction at the higher pressure shows a marked reduction in time required for the oxidation of trichloroethylene. It is readily apparent by reference to FIGURE 1 that the 90 percent conversion at 35 p.s.i.g. takes approximately 30 hours while the 90 percent conversion at atmospheric pressure required approximately 160 hours.

Thus when either air or oxygen is employed, the oxidation of trichloroethylene under the conditions of the process of the invention proceeds at approximately one sixth the time of the reaction rates taught by the prior art,

It is this marked and unexpected increase in the reaction rate which provides a practical process for the economic production of dichloroacetyl chloride. The expensive fractionation to eliminate the undesired by-products is no longer necessary. The shortening of the reaction time has resulted in a selective process which gives dichloroacetyl chloride in high yield and high purity.

Aside from considerations of yield of dichloroacetyl chloride, the process of the invention suppresses the oxidative pathway which gives rise to the highly toxic undesirable products, carbon monoxide, hydrogen chloride and phosgene and suppresses formation of trichloroethylene polymers.

As mentioned above, the art specifically teaches that the oxidation of trichloroethylene to dichloroacetyl chloride should be carried out in a reaction environment free of tertiary amines. This is due to the fact that these amines are known to stabilize chlorinated hydrocarbons and, consequently, will decrease the oxidation rate to the point that such a process would not be commercially feasible. However, the reactions of the art produce equal amounts of dichloroacetyl chloride and the undesirable side-product trichloroethylene oxide, and smaller amounts of chloral, phosgene, and other equally unwanted products. The presence of these unwanted side products in such substantial amounts greatly decreases the yield of the desired product. Also, further yield is lost in the second step isomerization of the trichloroethylene oxide. For example, the best reported conversions of trichloroethylene was 60% with a 70% yield of dichloroacetyl chloride with reaction times of 6 or more hours.

As a result of the teachings of the art that secondary and tertiary amines should not be present in the oxidation of trichlorethylene, it is indeed surprising and unexpected that the combination of the invention compirsing a free-radial generating means, a secondary or tertiary amine and elevated temperatures in the oxidation of dichloroacetyl chloride would result in substantially pure dichloroacetyl chloride with negligible amounts of the undesirable side-products found in the art processes.

Accordingly, it has been found that this aspect of the invention results in 50 to 80 percent conversion of the trichloroethylene to dichloroacetyl chloride with only 1 to 3 percent production of unwanted liquid side products in approximately one to two hours of reaction time. This result is quite important commercially due to the very short reaction time.

This aspect of the invention is especially important commercially due to the fact that the trichloroethylene can be easily distilled from the reaction mixture since the mixture is substantially free of undesirable side products. Consequently, the dichloroacetyl chloride left behind may be purified by simple distillation or other simple purification techniques known to the art. The unreacted trichloroethylene may then be recycled through the process of the invention and further converted to dichloroacetyl chloride. The most attractive commercial aspect of the invention is the fact that 90% yields of pure dichloroacetyl chloride with near 100% conversion of trichloroethylene can be obtained by recycling the unreacted trichloroethylene through the process of the invention. On each recycle, more trichloroethylene may be added to the reaction, thus resulting in a continuous process.

Further, the process of the invention may be run in a batch reaction technique wherein the trichloroethylene

is allowed to react approximately three hours and then the unreacted trichloroethylene may be easily distilled from the reaction mixture and the dichloroacetyl chloride mixture may be purified as described above. Here again, near 100% conversion of trichloroethylene can be obtained with about 90% yield of dichloroacetyl chloride.

Contamination of the process of the invention with iron or copper should be avoided. It has been found that when any of the reactor surfaces or lines which carry the reactants contain metallic iron or copper, a significant quantity of chloral appeared as one of the reaction products, and in addition, such contaminants slow the reaction rate. The use of conducting lines and reaction vessels constructed of or lined with other metals such as nickel has obviated this problem. Also, non-metallic lined conducting lines or reaction vessels such as those which are made of or lined with glass or ceramic are also suitable.

To illustrate the novel selective oxidation process of the invention, the following examples are set forth. It should be understood that these examples are given for purpose of illustration of the process and should not be regarded limiting the scope of the claims. In the following examples the proportions are expressed in parts by weight unless otherwise noted.

EXAMPLE I

A glass pressure reaction vessel was charged with 200 parts of acid-washed distilled trichloroethylene. A metal mesh sleeve was placed over the lower portion of the vessel and a coil of copper tubing was wound tightly about the top portion for cooling water. The vessel was irradiated with an ultra-violet lamp and heated by use of an infrared heat lamp. Temperature of the latter was thermostatically controlled to give the desired reaction temperature of 75° C. Oxygen from a cylinder was admitted at 40 p.s.i.g. with the back pressure regulator set at 35 p.s.i.g. The oxygen flow was calibrated at approximately 0.3 mole per hour. Oxygen was bubbled through a fritted glass sparger placed in contact with the trichloroethylene.

The reaction was stopped at the end of 6 hours. Analysis of samples of the 200 parts of the reaction product formed indicated that 88% of the trichloroethylene had been converted. The yield of dichloroacetyl chloride amounted to 45% m., and trichloroethylene oxide to 43% m. as determined by infrared analysis. The oxide is readily convertible to dichloroacetyl chloride.

Using a procedure similar to that outlined in Example I several other runs were conducted comparing the use of pressures, oxygen source, and initiator. These results are summarized in Table I.

TABLE I.—OXIDATION RUN SUMMARY

Feed	Pressure	Initiator	Temperature, ° C.	Reaction time, hrs.	Trichloroethylene conversion percent [1]
O_2	Atmospheric	UV	75	25	82
O_2	35 p.s.i.g	UV	75	6.5	99
O_2	35 p.s.i.g	UV	100	5.3	97
O_2	Atmospheric	Benzoyl peroxide	75	23	93
O_2	35 p.s.i.g	do	75	7	86
Air	Atmospheric	UV	75	168	97
Air	35 p.s.i.g	UV	75	27	89
Air	50 p.s.i.g	Benzoyl peroxide	100	21.5	91.5
Air	50 p.s.i.g	t-Butyl-hydroperoxide.	100	21.5	91
Air	Atmospheric	Benzoyl peroxide	65-80	72	5

[1] As represented by yield of dichloroacetyl chloride and trichloroethylene oxide.

EXAMPLE II

The operation of the process of the invention on a scaled up procedure is illustrated in the following example. 1900 gallons of trichloroethylene were charged into a glass-lined reaction vessel. Triethylamine was added to give a concentration of 100 p.p.m. Compressed air at 104° C. and 50 p.s.i.g. was introduced into the trichloroethylene. The temperature was maintained at 104–105° C. by semi-continuous feed of the 70% t-butyl-hydroperoxide catalyst solution and intermittent steam to the oxidizing vessel jacket.

Oxidation was continued for approximately 85 hours until GLC analysis of the reactor sample indicated that over 99 percent of the reaction mixture was dichloroacetyl chloride.

EXAMPLE III

By the procedures of Example I, 200 parts of trichloroethylene were oxidized with air (0.32 c.f.h.) at 50 p.s.i.g. and 100° C. using t-butylhydroperoxide as the initiator and 100 p.p.m. of triethylamine for 23 hours to a conversion of 80%. No trichloroethylene oxide or chloral was present in the crude dichloroacetyl chloride.

EXAMPLE IV

The following Table II sets forth the summary of batch trichloroethylene oxidation experiments carried out in the presence and absence of triethylamine at atmospheric pressures. The selectivity of the oxidation was established in terms of the ratio of trichloroethylene oxide (TCEE) to dichloroacetyl chloride (DCAC) found in the reaction product.

The reactions were carried out in a ¾" glass tube with reactants consisting of 60 millilters of trichloroethylene, oxygen introduced at the rate of 0.32 mole/hour after being dried over a 5 angstrom molecular sieve and under reaction conditions of 80° C. and 1 atmosphere pressure. The initiator used was alpha,alpha'-azobisisobutyronitrile.

TABLE II

Initiator, p.p.m.	TCE [1] half-life, t½ hr.	Selectivity, TCEE/DCAC	Triethylamine, p.p.m.
1,000	2.6	1.30	0
1,000	2.7	1.06	0
1,000	3.1	0.02	100
100	5.9	1.34	0
100	7.4	1.24	0

[1] Reaction time for ½ of trichloroethylene to be oxidized.

The results demonstrate the greatly increased selectivity obtained by the use of triethylamine at atmospheric pressure. They also show that the half-life of the reaction was not appreciably extended by the presence of the triethylamine.

EXAMPLE V

Table III sets out comparison of the effect of varying amounts of the ABIN initiator and the triethylamine catalyst as carried out in the process of the invention. The experiments were carried out in a continuous reaction cycle method in a 2.3-gallon reactor and elevated temperatures and pressures. The production rate of the continuous reaction is given in grams/hr., meaning that so many grams per hour were removed from the reaction vessel and replaced with an equivalent amount of trichloroethylene. The product was analyzed by a gas liquid chromatograph (GLC) with the results also set forth in Table III.

The product after the first hour of operation was analyzed by a gas liquid chromatograph. The result of this analysis is set forth in Table III. As is evident from Table III, only 3 to 6% unwanted side products were produced, with about 49% to 68% dichloroacetyl chloride being produced, with the remaining percent being trichloroethylene which can be recycled through the reaction vessel.

TABLE III.—OXIDATION OF TRICHLOROETHYLENE TO DICHLOROACETYL CHLORIDE (CONTINUOUS PROCESS)

Temp., ° C.		Pressure, p.s.i.g.	Air feed s.c.f.h. [1]	ABIN [3] initiator, p.p.m.	Triethylamine, p.p.m.	Production rate, gms./hr.	GLC analysis of crude liquid product [2]				
Top	Bottom						Phosgene	Other side products	TCE [4]	TCEE [5]	DCAC [6]
127	119	125	107	422	92	12,532	1.11	1.58	47.29	0.92	49.10
125	120	125	107	988	82	8,331	1.36	1.50	43.18	0.61	53.33
125	122	125	107	500	50	11,000	1.32	3.57	40.90	0.53	53.68
125	122	125	60	1,359	136	3,963	1.53	2.71	27.46	0.86	67.43
125	122	125	60	1,133	113	4,986	1.54	2.34	27.59	0.63	67.85
125	122	125	107	500	50	11,000	1.44	1.46	37.69	1.73	57.68

[1] Standard cubic/feet/hour.
[2] Percent weight heavy ends free basis. The heavy ends in the above reactions did not exceed more than 2% of the total product.
[3] Alpha,alpha'-azobisisobutyronitrile.
[4] Trichloroethylene.
[5] Trichloroethylene oxide.
[6] Dichloroacetyl chloride.

EXAMPLE VI

When trichloroethylene is oxidized in the presence of molecular oxygen to dichloroacetyl chloride according to the physical procedure outlined in Example IV in the presence of a catalytic amount such as 100 p.p.m. alpha,alpha'-azobis(alpha-enanthonitrile) and a catalytic amount of dihexylamine, under the conditions of temperatures about 100° C. to 140° C. and pressures between about 2 to 10 atmospheres, the unreacted trichloroethylene may be distilled from the reaction mixture after about two hours of reaction time. The remaining reaction mixture consists of mainly dichloroacetyl chloride which may be further purified by distillation or other purification steps known to the art.

The comparatively pure trichloroethylene distilled off from the reaction mixture may then be recycled through the reaction process again in a continuous process. More trichloroethylene may be added on recycle to replace that oxidized to dichloroacetyl chloride. Yields of up to 90% dichloroacetyl chloride and near 100% conversion of trichloroethylene may be obtained by this method.

EXAMPLE VII

When trichloroethylene is oxidized to dichloroacetyl chloride in the presence of molecular oxygen in a batch process in the presence of about 1000 p.p.m. of alpha,alpha'-azobis(alpha,gamma-dimethyl valeramide) and about 500 p.p.m. of tri-n-propylamine under the conditions of temperature of about 140° C. and pressure of about 15 atmospheres, pure dichloroacetyl chloride may be distilled off after a reaction time of about 3 to 4 hours. Yields of about 90% dichloroacetyl chloride may be obtained with near 100% conversion of trichloroethylene.

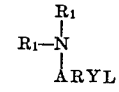
EXAMPLE VIII

When trichloroethylene is oxidized in the presence of molecular oxygen in the presence of about 250 p.p.m. of methyl alpha,alpha'-azodiisobutyrate and about 300 p.p.m. of piperidine under the conditions of temperature about 150° C. and pressure of about 3 atmospheres, pure dichloroacetyl chloride may be distilled off the reaction product in about two hours of reaction time. Yields of about 90% dichloroacetyl chloride with near 100% conversion of trichloroethylene may be obtained by recycling the unreacted trichloroethylene through the reaction vessel.

We claim as our invention:

1. The process of synthesizing dichloroacetyl chloride comprising oxidizing trichloroethylene in a reaction mixture consisting essentially of trichloroethylene, an oxygen-containing gas, a free-radical generating means selected from the group consisting of ultraviolet light, peroxide compounds, azo compounds and colbaltous salts and from about 30 parts per million to 1000 parts per million by weight of the reaction mixture of a secondary amine

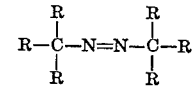
wherein each R is alkyl of 1 to 6 carbon atoms, a tertiary aryl amine



wherein each R_1 is alkyl of 1 to 4 carbon atoms, and the total number of carbon atoms of R_1 and ARYL hydrocarbons together does not exceed 14 carbon atoms, or a tertiary alkyl amine of the structure

wherein each R_2 is alkyl of 1 to 6 carbon atoms, at a temperature of from about 50° C. to about 250° C. and at a pressure of between about 1 to 100 atmospheres.

2. The process of claim 1 wherein the free-radical generating means is an azo compound of the formula



wherein at least one of the carbons attached to the acyclic azo group is tertiary, and wherein R is

hydrogen,
—CN,
—$R'OCNH_2$ wherein R' is alkylene of up to six carbon atoms, carbalkoxy of up to 5 carbon atoms, or alkyl of 1 to 6 carbon atoms.

3. The process of claim 2 wherein the temperature is from 60° C. to 150° C. and the pressure is 2 to 20 atmospheres.

4. The process of claim 3 wherein R is —CN, hydrogen or alkyl of 1–6 carbon atoms.

5. The process of claim 4 wherein the azo compound is alpha, alpha'-azobisisobutyronitrile.

6. The process of claim 5 wherein the amine is a tertiary alkyl amine

wherein each R is alkyl of 1 to 4 carbon atoms.

7. The process of claim 6 wherein the amine is triethylamine.

8. The process of synthesizing dichloroacetyl chloride comprising oxidizing trichloroethylene in a reaction mixture consisting essentially of trichloroethylene, an oxygen-containing gas, and a free radical generating means selected from the group consisting of ultraviolet light and peroxide compounds, at a temperature of from about 50°

to about 250° C. and at a pressure of from 2 to about 20 atmospheres.

References Cited

UNITED STATES PATENTS

1,976,265	10/1934	Mugdan	260—123
2,292,129	8/1942	Kirkbride	204—163
2,321,823	6/1943	Kirkbride	204—163
2,472,946	6/1949	Hart	260—544

LORRAINE A. WEINBERGER, Primary Examiner
E. J. GLEIMAN, Assistant Examiner

U.S. Cl. X.R.

204—158